

Jane's

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THE WORLD'S NEWS AND ANALYSIS

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The hard word

US pressures Europe over China

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- **Ukrainian cruise missile transfers come under scrutiny – p6**
- **US strategy emphasises irregular warfare – p5**

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Cover story

US Secretary of State Condoleezza Rice has warned European allies, including UK Foreign Secretary Jack Straw, over the consequences for Europe and US relations if the arms embargo against China is lifted (*see page 4*).

ONLINE THIS WEEK

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France has accepted delivery of its first **Eurocopter Tiger** combat support helicopter, the first of 10 to be delivered to France and Spain in 2005

Eurocopter; 0590898

- Israel Navy exercises with NATO force;
- US maritime security strategy ordered by President Bush;
- Palestinian security personnel train as special force;
- Strykers get first upgraded Protectors;
- Pentagon funds international counter-terrorism course;
- US Army tests JCM in urban warfare

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HEADLINES

EU stands firm on lifting embargo

TONY SKINNER & MICHAEL SIRAK *JDW Staff Reporters*
London and Washington, DC

The EU appears determined to lift its arms embargo against China despite increasing US pressure and warnings of grave repercussions that could severely hamper EU-US defence co-operation.

EU ambassadors will be presented over the coming weeks with a draft of the revised EU Code of Conduct on Arms Exports with strengthened technology transfer provisions aimed at reassuring Washington that sensitive military equipment would not fall into Chinese hands.

The Society of British Aerospace Companies (SBAC) told *JDW* that a more coherent EU approach was needed to give the US a clearer statement of policy on the control of arms exports.

"This issue runs deeper than the latest embargo debate – the EU code of conduct and the China embargo itself are implemented differently across member states in the EU," SBAC Director of Defence Aerospace Derek Marshall said.

UK companies have complained of being refused licence applications for the export of night-vision equipment to China when Belgian, French and German companies have exported similar equipment.

US Secretary of State Condoleezza Rice warned European allies on 20 March that they "should do nothing" that alters the military balance of power in Asia through sales of sophisticated weapons to China, citing US concerns about the rise of Chinese military spending and the increasing sophistication of Chinese military technology. "The European Union should do nothing to contribute to a circumstance in which Chinese military modernisation draws on European technology or even the political decision to suggest that it could draw on European technology," she said.

Legislation by the Chinese National People's Congress autho-

rising the use of force to stop Taiwan from seceding led to reports that Europe was prepared to postpone its plans to lift the arms embargo.

Hours after Rice's warning, UK Foreign Secretary Jack Straw said the new law had created a "difficult political environment" and the problems of lifting the embargo – which he had described in January as "having run its course" and likely to be lifted before the UK takes over the presidency of the Council of the EU on 1 July – had become more difficult.

However, as *JDW* went to press, EU High Representative for Foreign Affairs Javier Solana said there had been no change in policy since EU leaders agreed last December to work towards lifting the embargo by the end of June. "We have a timeline that we are following so I can't say when [a final decision] will be taken. If the Americans retaliate we will consider things then," said Solana's spokesperson.

Export licences for the sale of military equipment granted by the EU for sales to China have increased eightfold between 2001-03, from EUR 54 million (\$90 million) to EUR 416 million.

Co-operation

Addressing a conference on transatlantic defence co-operation on 21 March in Washington, DC, senior US officials reiterated the US stance against lifting the embargo, warning of the repercussions it would have.

"If the EU does lift its arms embargo against China, it is going to have a significant negative impact on transatlantic defence co-operation," said Deputy Assistant Secretary of State for Defence Trade Gregory Suchan.

It would probably force the Bush administration to regulate US technologies more closely and implement more restrictive rules on co-operation with EU entities that trade with China – moves that



Javier Solana: no change in policy
PA: 0590900

would counteract the White House's desire for a deepening of EU-US defence co-operation, he said.

"If you are a foreign company and I know that you sell engines, radars, electronic warfare jammers to China and you want to team with an American company to work on a US defence project, I have to ask some hard questions," added Lisa Bronson, Deputy Undersecretary of Defense for Technology Security Policy and Counterproliferation and director of the Pentagon's Defense Technology Security Administration. "There are choices that have to be made, and if the decisions are only made in pursuit of the Euro and without recognition of the real danger that you will place on American service members in the Taiwan Strait, it is going to be very, very difficult for us to have a collaborative conversation," she said.

European officials argue the end of the arms embargo, which they say is essential to normalise relations with China, would not remove other limits that European countries have on arms exports – in particular the planned strengthened EU Code of Conduct on Arms Exports.

Suchan said the US finds the EU's statements that it will strengthen its code of conduct on arms exports "not confidence inspiring".

"If an embargo is lifted, those governments are going to come under increasing pressure from their own companies ... to begin a relationship and over time to expand it."

Further, the EU's own intra-union transparency measures "are not enough to ensure that there will not be a significant expansion with China", he added.

Suchan said a lifting of the embargo would also strengthen the hand of the members of Congress who support the protectionist 'Buy America' provisions by driving more moderate legislators in their direction.

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Further details on the debate
See China Country Briefing scheduled for
JDW 13 April 2005 issue

TLFeBOOK

M777A1 howitzer secures full rate production order

CHRISTOPHER F FOSS *JDW Land Forces Editor*
London

BAE Systems Land Systems (Weapons and Vehicles) has been awarded an \$834 million contract to supply 495 M777A1 155 mm-cal lightweight howitzers to the US Army and US Marine Corps (USMC).

Under the previously funded Low Rate Initial Production (LRIP) contract 94 M777A1s are being assembled at the BAE Systems Land Systems integration facility in Hattiesburg, Mississippi, with deliveries to be completed in April 2006.

The 495 M777A1s are due to be delivered over a four-year period starting in July 2006 and running through to October 2009; about 70 per cent of the weapon is being manufactured in the US with the remainder coming from the UK.

The BAE Systems Land Systems (Weapons and Vehicles) facility at Barrow-in-Furness in north western England will manufacture the elevating mass assembly and the saddle, which are made of titanium. The M777 was originally developed as a private venture at Barrow-in-Furness.

The US Army is expected to take

delivery of 233 systems and the USMC 262 to replace the existing and much heavier 155 mm M198 towed howitzer.

Marines from the 3rd Battalion, 11th Marine Regiment stationed at Twentynine Palms, California, will be the first to receive the M777. Instructors have already been trained at Fort Sill, Oklahoma, home of the US Army Field Artillery.

The M777 completed operational testing late last year using four LRIP guns, of which the US

Army and the USMC operated two each. During these trials in excess of 12,000 rounds were fired and according to the prime contractor, the gun "exceeded all operational requirements".

The US Army M777A1 will be fitted with the General Dynamics Armament and Technical Products Towed Artillery Digitization/Digital Fire Control System (TAD/DFCS). This will also be back-fitted to the USMC LRIP M777, which will then be designated the M777A1. The TAD/DFCS will enable the M777A1 to fire the Raytheon Excalibur precision-guided projectile out to a range of 40 km with an accuracy of 10 m.

BAE is already marketing the M777 worldwide and it is envisaged that production export weapons could come from the US production line.

The elevating mass and 155 mm/39-cal ordinance of the M777 has already been integrated on a new United Defense tracked chassis. This is being used as a demonstrator for the Non-Line-of-Sight-Cannon (NLOS-C), which is part of the US Army's Future Combat Systems.

To meet the potential requirements of the British Army for a Lightweight Mobile Artillery Weapon System (Gun) BAE is now developing a 'portée' carrier for the M777 that is expected to be unveiled later this year.



One of the Low Rate Initial Production M777s being put through its paces last year

BAE Systems Land Systems; 0590901

Jane's For more, go online
www.janes.com

'BAE Systems Land Systems 155 mm Lightweight Howitzer (M777)' (*Jane's Armour and Artillery*)
'BAE Systems unveils novel howitzer for UK requirement' (*JDW 1 December 2004*)

US strategy emphasises irregular warfare

Washington's new National Defense Strategy emphasises irregular warfare over conventional and stresses the importance of bilateral relations with allied countries, while making it clear that the US will act unilaterally if necessary.

The new strategy, recently released by the US Department of Defense (DoD), will shape the continuing Quadrennial Defense Review process and forms the framework the DoD will use to determine its future force structure and acquisitions.

"Challenges from terrorist extremist organisations and their state and non-state supporters will involve our forces in complex security problems for some time to come, redefining past conceptions of 'general-purpose forces'," the document states.

"Such operations may require changes to the way we train, equip and employ our

Strategy objectives

- Securing the US from direct attack
- Securing strategic access and retaining global freedom of action
- Strengthening alliances and partnerships
- Establishing favourable security conditions

forces, particularly for fighting terrorists and insurgents and conducting stability operations," it notes.

In order to defeat terrorists, the US believes it must increase its co-operation with allies because other countries often know the enemy better than the US. However, the strategy makes clear the limits to co-operation.

"The US will employ military power ... as necessary, to defeat adversaries. In

doing so, we will act with others when we can," the document states. No multilateral institutions such as NATO are mentioned in the document. Bilateral relations are emphasised and security co-operation will focus increasingly on building allies' capacity to deal with internal issues "to prevent problems from becoming crises or crises from becoming wars", said Undersecretary of Defense for Policy Douglas Feith, announcing the new strategy.

The strategy specifies that the US will seek legal arrangements with allies to provide "protections against transfers of US personnel to the International Criminal Court".

The document lays out several operational capabilities that will be key to those objectives. These include early warning intelligence and better intelligence integration; information operations; use of special operations forces to take direct

action against enemy forces; and maintaining access to the sea and facilities in allied countries to strike quickly anywhere in the world.

US forces deployed abroad "are adaptable forces able to respond rapidly to emerging crises and control escalation on our terms," according to the document. It also highlights the importance of expanding the more austere forward-operating sites and co-operative security locations, both for temporary basing and for keeping equipment. "Prepositioned stocks afloat are especially valuable," it notes.

Joshua Kucera
JDW Staff Reporter Washington, DC

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'US begins quadrennial defence framework' (*JDW 23 March 2005*)

HEADLINES

Ukrainian cruise missile transfer under scrutiny

ROBERT HEWSON *Editor, Jane's Air-Launched Weapons*
London

Further concerns have arisen regarding the scale of weapons trafficking under the former Kuchma administration in Ukraine.

The concerns arose following confirmation by Ukraine's prosecutor general Svyatoslav Piskun on 18 March that an investigation into the illicit transfer of cruise missiles from Ukraine to Iran and China is progressing.

Piskun has now said that a total of 18 Raduga Kh-55 (AS-15 'Kent', RKV-500A) cruise missiles were delivered to Iran and China during 2001. This is an increase over the 12 missiles cited in the first reports of the deal, which emerged in February.

According to Piskun, 12 Kh-55s were supplied to Iran and six to China. However, Western analysts fear that the actual number transferred may be significantly greater than the 18 missiles currently accounted for. There are also growing concerns that the deal between Ukraine, China and Iran may have

included a fourth unspoken participant, North Korea.

Japan's expression of concern over the missiles is a clear signal that it, and the US, believe North Korea has access to the Kh-55s, or their technology. Intelligence sources have previously linked Iran and North Korea with the development of long-range anti-ship and cruise missile systems.

Any combination of a cruise missile platform with North Korea's potential weapons of mass destruction capability is viewed with great alarm by Tokyo and Washington. Japan's ambassador to Ukraine, Kishichiro Amae, has reportedly asked the Kiev government for more information.

Following the withdrawal of Russian forces from Ukraine, the military there was left with a vast inventory of weapons and ammunition that had been part of the Soviet Union's invasion stockpile. During the 1990s a parliamentary commission was tasked with accounting for this arsenal. The commission duly completed its work and delivered a



Ukrainian officials have confirmed that the Kh-55 missiles supplied to China and Iran were unarmed
S Sergeyev; 0558907

large multi-volume report that was never published. The commission was then disbanded and no official comment was ever made. There is now little or no way to confirm the number of weapon systems that were in Ukrainian hands, making the tracking of any transfers all the more difficult.

It is known that Ukraine was in possession of over 1,000 Kh-55 missiles for which it had no practical use. The Kh-55 is an air-launched weapon and Ukraine's remaining bomber force consisted of a handful of unserviceable Tu-95s and Tu-160s. While aircraft and missiles were returned to Russia after years of wrangling, it is impossible to quantify the number of Kh-55s involved. The Kh-55 is a nuclear weapon and Ukrainian officials today are unswerving in their assertion that missiles supplied to Iran and China were unarmed.

However, Russia is upgrading and redeploying its Kh-55s as conventionally armed Kh-555s fitted with a new precision guidance system. The technical capability to develop a similar 'tactical' missile certainly exists in Ukraine and Western analysts wonder if such a modification package could have been part of the deal.

Analysts place great significance on the fact that the missiles provided to Iran and China were

exported using legal documents specifying Russia as the end-user. This is seen as evidence of Russian complicity in the transfers. There are also credible reports of a Russian-backed technical assistance package for both 'customers'. China already has strong military industry links with Russia, while Iran employs a constant pool of Russian designers and engineers to assist with defence programmes. In addition, there are well-established links between Iran and China, especially in the field of missile technology and production.

The larger number of missiles supplied to Iran has increased fears that some attempt may be made to put the Kh-55s into service. Iran has the skills needed to modify and integrate a weapon like the Kh-55 with a platform such as the Su-24. Iran is believed to have already equipped its Su-24s with Chinese-supplied C-802 anti-ship missiles. China is thought to be more interested in using the Kh-55's basic technology to augment its own well-advanced cruise missile development efforts.

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'Russian conventional cruise missile enters service' (JDW 15 December 2004)
'China, Iran share missile know-how' (JDW 4 December 2002)

Egypt, Thailand benefit from Dutch surplus sale

The Netherlands Ministry of Defence (MoD) has announced a series of surplus arms sales, including 431 YPR-765 series armoured infantry fighting vehicles (AIFVs) to Egypt.

The project also involves – through Thales Nederland – the delivery to Thailand of eight Flycatcher search and tracking radar fire-control systems for low-level air defence with 16 Bofors Defence 40 mm L/70 guns.

The sale of AIFVs to Egypt follows an earlier deal which saw the delivery of 611 of these ex-Royal Netherlands Army (RNLA) combat vehicles to Cairo in 1996. It brings the total of ex-Netherlands YPR-765s supplied to the Middle Eastern nation to 1,042.

Deliveries to Egypt of the 431 vehicles that have now become surplus will start by mid-2005, the MoD said.

In a second deal, the MoD has sold 13 Thales Nederland Flycatcher radar systems, 34 Bofors 40 mm L/70 guns and a training simulator to Thales Nederland. The Hengelo, Netherlands-based company will sell-on eight of these Flycatchers and 16 guns to Thailand, the MoD said.

According to an MoD spokesperson, the Flycatchers are part of 30 that used to be in the RNLA air-defence artillery forces, but are now being withdrawn from service.

Thailand already has Flycatcher systems, which are typically used to provide low-level air defence for air-fields, command centres, rear area logistic bases or other high-value objectives. During a recent visit to Thales Nederland, JDW saw several Thai Flycatchers being worked on, apparently as part of an overhaul programme.

Thales refused to comment on the Thai Flycatcher deal, saying that "it was not interested in making any communication about it".

According to the MoD, the Flycatchers and guns that are not sold on to Thailand will be used by Thales as a source of components, or for sale to other countries.

The MoD also confirmed the sale to Romania of eight Raytheon HAWK PIP-III surface-to-air missile systems plus 78 DAF YA-5442 all-terrain trucks. Macedonia, finally, will receive 87 army trucks and 30 Mercedes-Benz ambulance vehicles.

Joris Janssen Lok
JDW Special Correspondent; The Hague

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'Romania to get Dutch HAWK missiles' (JDW 9 March 2005)

THE AMERICAS: NAVY LEAGUE

US Navy to reconsider Harpoon Block III

The US Navy is set to consider again an upgrade to its RGM-84 Harpoon medium-range anti-ship missile stockpile to allow some users greater options in littoral environments, said officials from the manufacturer, Boeing.

According to Stephen Sherrick, a business development manager at Boeing Integrated Defense Systems, the navy has conducted studies identifying a requirement for an anti-surface warfare (ASuW) weapon capable of striking over-the-horizon targets. Existing Harpoons are not able to discriminate sufficiently between commercial ships and enemy vessels, leaving the navy hesitant to use them in cluttered near-coastal waters.

Sherrick said an upgraded version of the missile, called Harpoon Block III, would add a datalink in addition to enhancements that are part of the Harpoon Block II, such as seeker improvements and a GPS/INS guidance package that also gives the missile a land-attack capability. Datalinks under consideration include the Link 16 as well as a common system being developed under the Weapons Data Link advanced concept technology development programme.

The navy is looking to upgrade about 400 Harpoon Block 1C missiles to the Block III configuration, he noted. Funding the upgrades is being considered as part of the navy's Fiscal Year 2007 (FY07) budget submission, with production tentatively starting in FY09 or FY10.

Other upgrades under consideration, although not yet part of the Block III effort, include altering the Harpoon so it can be fired from a Vertical Launch System canister, changes that would enable it to be used on the Littoral Combat Ship as part of an ASuW module and extending the weapon's 65 nm range.

Andrew Koch

JDW Bureau Chief, Washington, DC

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'US Navy in bid to combat swarming threat' (JDW 22 October 2003)
'US gives go-ahead for new Harpoon' (JDW 19 September 2003)

Shipyards propose sea base solutions

ANDREW KOCH *JDW Bureau Chief*
Washington, DC

Senior officials from the two major US shipbuilders — General Dynamics (GD) and Northrop Grumman — have begun to propose options to the US Navy to meet the service's sea-basing requirements.

However, rather than follow the lead in pursuing a new, single Maritime Preposition Force-Future (MPF-F) ship as the sea-base's centre, both shipbuilders are proposing spreading the task among several vessels, including variants of those in service.

"Why not take ships being built today at a known cost" asked Philip Dur, president of Northrop Grumman Ship Systems, "rather than design new ones like the MPF-F at an unknown price". Using existing design and shipbuilding infrastructure, Dur said, "will take a lot of cost out of the projects".

To meet the sea-basing needs, rival yard GD is also proposing alternatives to the MPF-F, including a new combatant-like



aviation-focused ship with a high degree of survivability called the Joint Strike Ship (JSS) and a second type based on commercial designs optimised for cargo called the Joint Preposition Ship (JPS).

Both would be supported by a small fleet of high-speed vessels that shuttle cargo to and from the base. The navy has begun to explore the high-speed craft and other 'connectors'.

According to Deputy Assistant Secretary of the Navy Allison Stiller, in the end the Joint High Speed Vessel "probably will be a player with the sea base".

The GD concepts include the new JSS, which is a high-speed trimaran design using water jet propulsion, said Robert Sprigg, director for advanced warfare concepts at GD's Bath Iron Works.

The JSS would include a scalable joint task force command-and-control unit, a 100-bed hospital, a force briefing and rehearsal area and berthing for up to 3,400 personnel. It would also feature large reconfigurable spaces for carrying high-priority cargo such as 11 CH-53 heavy-lift helicopters or 53 Stryker 8 x 8 medium armoured vehicles, Sprigg said.

The JPS would be a "scaled-down LMSR [Large, Medium-Speed, Roll-on/Roll-off]" that carries bulkier equipment and cargo, Sprigg said, referring to the Bob Hope-class LMSR vessel.

It could be slower than the JSS because it is pre-positioned and, at about 850 ft (259 m) in length, would be able to carry roughly 25 per cent of the supply needs for a Marine Expeditionary Brigade. It would have spots to accommodate four CH-53 helicopters, be equipped with High Capacity Alongside Sea Base Sustainment cranes and allow the necessary selective offload and automated warehousing functions.

Sprigg suggested that a mixture of five JSS ships — one per theatre of operation — and two squadrons of five or six JPS each, would meet Washington's global sea-basing needs.

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Read more of this story online
'Core sea-basing ship concept takes shape' (JDW 19 January 2005)

Long-term ship plans sent to Congress

Facing criticism that it has failed to outline requirements for its envisaged fleet size, the US Navy has sent a plan to Congress outlining how it would build a fleet of between 260 and 325 ships, depending on resources.

A copy of the interim plan detailing how the service intends to shape its force over the next 30 years, signed on 22 March by Navy Secretary Gordon England, was obtained by JDW.

According to an accompanying letter to Congress signed by England, the report is an interim plan until further analysis of available costs and resources can be concluded. A final report considering industrial base issues, cost constraints and demands of the global war on terror is expected to be delivered to Congress by mid-year, the letter said. Chief of Naval Operations Admiral Vernon Clark told

JDW that the 260-325 range of ships required is based on uncertainty over the degree to which the service's Sea Swap practice of rotating crews can be applied.

The navy has been under fire from US shipbuilders for failing to set a steady plan for its fleet. Without such a plan, argues Northrop Grumman Ship Systems President Philip Dur, the company cannot conduct the kind of business and investment planning necessary to drive costs down.

The new navy plan outlines force structure options of 260 and 325 ships, with its aircraft carrier force eventually shrinking to 10 at 260 ships and maintaining 11 carriers at 325. With a 260-ship profile, the navy would eventually buy eight DD(X) destroyers, 15 CG(X) cruisers, 63 Littoral Combat Ships (LCSs) and 37 Virginia-class nuclear-powered attack

submarines (SSNs). The size of the SSN fleet, would, however, shrink by 2035. It would also have 19 'sea-basing ships' including 14 Maritime Preposition Force-Future (MPF-F) vessels.

Under a 325-ship profile, the navy would eventually buy 12 DD(X)s, 18 CG(X)s, 82 LCSs and 40 Virginia-class submarines. The size of the SSN fleet under this construct would be 41 in 2035. It would also buy 25 sea-basing ships, including 20 MPF-F vessels.

John Young, the navy's top acquisition official, noted on 23 March that over the short term the plan matches that in the Fiscal Year 2006 defence budget submitted to Congress. He did note, however, that after the navy conducts further analysis of the shipbuilding costs and anticipated budgets, additional long-term changes are possible.

Andrew Koch

JDW Bureau Chief, Washington, DC



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THE AMERICAS

US sends ICE to freeze Iraq bombs

JOSHUA KUCERA *JDW Staff Reporter*
Washington, DC

The US Army and US Marine Corps (USMC) are significantly stepping up their purchases of a new system to counter improvised explosive devices (IEDs), the single largest cause of casualties for US forces in Iraq.

The USMC is in the process of fielding 1,066 IED Countermeasures Equipment (ICE) units to Iraq and has funding in next year's budget supplemental for an additional 2,500, said Lieutenant General James Mattis, commander of Marine Corps Combat Development Command. The army is purchasing 3,000 of the systems for about \$36 million, Lt Gen Mattis told a Congressional committee.

Developed by the US Army Survivability/Lethality Analysis Directorate (SLAD) at White Sands Missile Range, New Mexico, ICE is manufactured by Raytheon Technical Services Company of Indianapolis, Delta Group Electronics and Canberra Aquila, both of Albuquerque, New Mexico, and New Mexico State University.

ICE costs about \$12,000 per system, which is one advantage over

the initial Warlock system fielded for IED jamming, service officials said.

In January, the army bought an additional 1,440 Warlocks for \$56 million at a unit cost of about \$39,000. Thus far, the army has bought 2,439 Warlocks at a cost of about \$87 million.

Other advantages that ICE offers include the ability to reprogramme the system to different frequencies and a greater ability to expand and upgrade, said Dick Bridges, a spokesman for the army's Joint IED Defeat Task Force.

Military officials declined to disclose additional details about the systems, citing operational security.

As insurgents in Iraq adapt their IED technology, the US is forced to do the same, Lt Gen Mattis said. The first IEDs used low-frequency, low-power remote-controlled devices like garage door openers or doorbells, and the Warlock and the first versions of ICE were optimised to that threat.

Low-frequency high-power devices are now becoming more prevalent, as are high-frequency, high-power sources such as cellular

phones, and so service officials are working on upgrades to the current systems for both those threats.

In particular, cell-phone-triggered bombs are expected to be used more commonly as the network in Iraq continues to grow, Lt Gen Mattis said.

Testing on various proposals is under way and decisions on which technology to procure should be made by mid-April, said Joe Murgo, the USMC Mine Countermeasures team leader for IEDs.

For now, the two systems will both be used, in part because the production base is so small, Murgo said. "We'll go with whatever vendor has them available in the shortest time to field the systems," he said.

Over the longer term, however, the army and USMC are looking for a single solution, Murgo said.

"There's no silver bullet. These systems all complement each other and take care of different kinds of threats. But we're looking, and I know the army's looking, for that one system that could defeat all the threats out there," he said.

The US Army has requested \$17 million for counter-IED equipment from Congress, including change detection technology that can help find IEDs from the air. The USMC has about \$48 million for development and procurement of the ICE upgrades in the supplemental.

Jane's For more, go online
jdw.janes.com

'US begins to counter IED threat in Iraq'
(JDW 11 March 2005)



I Mackenzie; 0590885

An Ecuador Army Aviation **CASA C-212-400** Aviocar in Glasgow, Scotland on 10 March en route to Ecuador

Ecuador strengthens air transport

Ecuador has received a second tactical transport aircraft from EADS CASA, part of an order of three intended to allow greater airborne access to the country's rugged interior.

The three aircraft were acquired for the Ecuadorean Army Aviation (AEE) in a \$30 million deal. A CN-235-300M was officially handed over on 12 January 2005 to Army Air Group-44 (GAE-44) based at Shell-Mera 150 km southeast of Quito.

The other two aircraft are C-212-400 Aviocars, the first delivered to GAE-44 on 21 March and the second expected before mid-2005.

Until now, GAE-44 has operated four Israel Aircraft Industries IAI 201 Aravas and a single Pilatus PC-6 B2-H2 Turbo Porter. AEE has had a CN-235M in its inventory since 1989, but the aircraft has been in storage since 2002. Ecuadorian sources said the latter aircraft is currently being repaired and would be reassigned to GAE-44 by mid-2005.

Cesar Cruz Tantalean
JDW Correspondent, Lima

Air force bolsters Predator fleet

The US Air Force intends to significantly increase the amount of Predator unmanned aerial vehicles (UAVs) it operates in order to meet a burgeoning demand for the armed reconnaissance platforms.

The service currently operates three squadrons of MQ-1 Predators. These carry sensors to locate and track

ground targets and Hellfire missiles to attack them. Although these aircraft are based in the US, they have served internationally, particularly in Afghanistan and Iraq.

The air force will establish, under plans unveiled on 18 March, up to 15 Predator squadrons into the next decade, with about 12 aircraft per unit. The squadrons will be equipped with the MQ-1 and its larger cousin, the MQ-9A Predator.

In addition to active-duty forces, Air National Guard (ANG) and Air Force Reserve Component personnel will operate and maintain the aircraft, as will Air Force Special Operations Command. General Atomics Aeronautical Systems (GA-ASI) manufactures the aircraft.

The service previously had announced its intent to create several ANG-led squadrons beyond the current three units, but the newly announced additional expansion, it says, is to "ensure an increased number of Predators are

available" to regional combatant commanders, especially in the Gulf, to combat terrorists.

The goal with the ANG units is to have personnel at facilities in the US control the Predators in flight via satellite communications links when the aircraft are fighting thousands of miles away. The first ANG units will be in place by 2007 in Arizona and Texas, followed later by a third ANG unit in western New York state, based near a ground station that will process global intelligence information. The location of the remaining units will be determined after the US Department of Defense's next round of military base closures, according to an air force spokeswoman.

The air force has been operating the smaller Predator since 1995. Initially it was unarmed and designated the RQ-1. Now fitted with AGM-11L Hellfire air-to-surface missiles, the aircraft is called the MQ-1. The MQ-9A came along later and the service has only begun using it operationally in the past year. It flies higher, faster and longer and carries a greater load of weapons.

Michael Sirak *JDW Staff Reporter, Washington, DC*



The US Air Force wants to establish up to 15 squadrons of the **MQ-1 Predator** and its larger cousin, the **MQ-9A**

US Air Force;
0590891

EUROPE

Major milestone for Skynet 5

TONY SKINNER *JDW Staff Reporter*
London

The Skynet 5 satellite communications programme, which will deliver next-generation secure military satellite communications services to the UK armed forces until 2018, has entered service on schedule, Defence Procurement Minister Lord Bach announced on 21 March.

Paradigm Secure Communications – part of EADS Space Services – achieved the key in-service date (ISD) on 23 February, described as the “first and most challenging milestone” since the £2.5 billion (\$4.7 billion) contract was signed in October 2003.

The Skynet 5 programme covers the provision of beyond-line-of-sight voice and data relay, including video conferencing, plus other command-and-control and communications-relay services.

Reaching the ISD, which introduces Skynet 5 services via the Skynet 4 constellation of satellites, required a major upgrade of UK satellite ground station facilities as well as the introduction of new service management processes.

At a press conference at EADS Space Service’s facility in Steve-

nage, UK, Lord Bach said the Skynet 5 programme, which was on time and budget, was proof that the Private Finance Initiative (PFI) approach could be successful.

“We are used to hearing criticism about defence procurement – sometimes fairly, sometimes unfairly... this deal has been built on effective partnering and demonstrates how well the MoD

[Ministry of Defence] and industry can work together to deliver best services for the armed forces.”

In overall value for money terms, the PFI approach has saved around four per cent – some £100 million – of the whole life costs of a conventional acquisition, while providing the same capability and greater flexibility.

EADS Space Services chief executive officer Eric Beranger said the company had taken a non-aggressive approach during negotiations, ignoring the possibility of “quick wins” to ensure they fully understood the requirements of the programme – and they were now enjoying the benefits.

Full operational capacity of the Skynet 5 system will be reached in 2008, resulting in an increased capacity of two-and-a-half times the

current system. The package calls for the launch of at least two new EADS Astrium- designed and -produced satellites later this decade: Skynet 5A in late 2006 and Skynet 5B in late 2007.

EADS recently finalised a contract with Arianespace, the commercial arm of Europe’s Ariane space programme, for the launch of the two satellites from its site in French Guiana.

Each E3000S platform will carry super-high-frequency and ultra-high-frequency communications payloads and feature enhanced survivability and anti-jam capabilities against the UK’s current six Skynet 4 satellites.

Individual requests for services to meet specific operational requirements are handled by Paradigm, responsible for maintaining capacity and providing 24-hours-a-day, all-year-round support and management from the UK MoD’s site in Wiltshire.

Paradigm’s solution uses satellite links provided by commercial operators to supplement the military network, enhancing the service when communications do not require robust links.

Under the terms of the deal, Paradigm is able to use spare capacity to generate further revenue by delivering specialist military and government communications to other customers. It has already signed a 15-year deal with NATO.



Skynet 5A being prepared for its 2006 launch. Full operational capacity of the Skynet 5 system will be reached in 2008

Paradigm; 0590887

Jane's For more, go online
jdw.janes.com

‘NATO selects Satcom solution’
(JDW 12 May 2004)

‘UK concludes Skynet 5 deal’
(JDW 29 October 2003)

UK orders new 105 mm ammunition

The UK Defence Procurement Agency (DPA) has awarded BAE Systems Land Systems (Munitions and Ordnance) a contract to supply a new generation of high-explosive (HE) ammunition for the British Army’s 105 mm L118 Light Gun.

Under the terms of the contract, awarded by the DPA’s Future Artillery Weapons Systems (FAWS) Integrated Product Team (IPT), an initial batch of 105 mm HE ammunition will be supplied for qualification.

If successful, the trials will be followed by the supply of 50,000 105 mm HE rounds under a contract valued at about £17 million (\$32.13 million). First deliveries will commence late in 2006 and run for three years. There is also potential for additional buys over the following 12 years.

The new Improved Ammunition (IA) for the 105 mm L118 Light Gun will be of the Insensitive Munition (IM) type

and replace the in-service 105 mm L31 HE projectile, which has a maximum range of 17.2 km. The 105 mm HE IM round will also have improved lethality of at least 20 per cent and will be the first IM artillery round to enter service with the UK. It will be ballistic match to the in-service L31 HE round.

Production of the new IA 105 mm ammunition will be undertaken at the BAE Systems Land Systems main ammunition production facility at Glascoed in South Wales.

As well as meeting UK 105 mm IM requirements, the new IM facility also has a surge capability and the new IA 105 mm round will also be offered on the export market to current users of the 105 mm L118 Light Gun. An IM compliant 155 mm HE projectile is expected to be qualified soon.

BAE Systems Land Systems (Munitions and Ordnance)

has also developed, in association with the German company Buck Neue Technologien, a new 105 mm smoke projectile with a Red Phosphorous payload.

This offers bi-spectral screening in the vision and infrared spectra. The company will offer this to the UK MoD with an invitation to tender expected to be issued this year.

As a private venture, the company has also developed the HEIM-ER (Extended Range) projectile fitted with a base bleed unit that enables ranges of more than 20,000 m to be obtained.

The 105 mm L118 105 mm Light Gun will now remain in service with the UK until at least 2023.

Christopher F Foss
JDW Land Forces Editor, London

Jane's For more, go online
jdw.janes.com

UK seeks new 105 mm ammo’ (JDW 14 April 2003)

Czech MoD seeks replacement wheeled armoured vehicles

JIRI KOMINEK *JDW Correspondent*
Prague

The Czech Ministry of Defence (MoD) is expected to release a request for tender for 8 x 8 wheeled armoured vehicles for the Army of the Czech Republic (ACR) in April following completion of a joint ministerial study over the procurement.

MoD spokesman Andre Cirték said initial deliveries are scheduled to start in early 2007 and the deal is expected to be worth some Kcs 25 billion (\$1.1 billion).

"The study has concluded that the ACR requires 199 vehicles with an option to procure an additional 35 units, for a total of 234 vehicles," Cirték said.

He said the MoD will issue a two-round international tender, open to all interested bidders.

"The first round will determine [which] bidders meet our criteria including technical specifications and cost concerns, while the second round will shortlist the previous bidders," Cirték told *JDW*.

There are three main contenders for the Czech 8 x 8 requirement: Steyr-Daimler-Puch of Austria with the Pandur II 8 x 8; MOWAG of Switzerland with the Piranha III; and Patria Vehicles of Finland with the Armoured Modular Vehicle. All three platforms have been demonstrated in the Czech Republic.

Steyr-Daimler-Puch and MOWAG are now part of General Dynamics European Land Combat Systems and it is possible the Piranha III may not be bid.

The vehicles would replace the ACR's 1960s vintage OT-64 8 x 8 wheeled armoured personnel carriers (APCs) that have exceeded their service life.

One of the key criteria is that the new vehicles comply with the ACR's new policy of being a modern, mobile and light force capable of deploying personnel and equipment anywhere when required by NATO. The vehicles must therefore be air-transportable in a medium transport aircraft for

deployment worldwide.

Cirték said the MoD had not dismissed the possibility of also procuring up-armoured 4 x 4 vehicles as an alternative to the OT-64 APCs and the service's Land Rover Defender 4 x 4 fleet.

Such a procurement would most likely consist of the AM General High Mobility Multipurpose Wheeled Vehicle or other competing vehicles in this class manufactured by Iveco or MOWAG.

"This, however, would be the subject of a separate tender," said Cirték.

Jane's For more, go online
jdw.janes.com

'Czech Republic set to revise 8 x 8 requirement' (*JDW* 2 March 2005)



The Czech MoD will issue a request for tender for 8 x 8 wheeled armoured vehicles to replace the army's vintage OT-64 8 x 8 wheeled armoured personnel carriers

R Stickland: 0525689

UK opts for REMUS

US company Hydroid, offering its REMUS system, has been selected as preferred bidder for the supply of very shallow water (VSW) unmanned underwater vehicles (UUVs) to the UK Royal Navy (RN).

It is envisaged that up to eight REMUS vehicles will be procured, together with ancillary support equipment, an initial spares holding and training services. An in-service date of May 2006 is planned.

The VSW UUV procurement, managed by the Defence Procurement Agency's Mine Countermeasures Equipment (MCME) Integrated Project Team (IPT), is intended to meet a requirement for an autonomous underwater vehicle optimised for mine reconnaissance in water depths from 30 m to the surf zone.

It is one of two types of UUV being acquired under the umbrella of the MCM Mid-Term Coherency plan, the other being a Rapid Environmental Assessment vehicle designed for operations in depths from 30 m out to the 200 m contour.

An invitation to tender for the VSW UUV requirement was issued by the MCME IPT in October 2004. Bluefin Robotics, GeoAcoustics and Eca were invited to bid alongside Hydroid.

REMUS is already in service with the US Navy and was used operationally to survey the approaches to the port of Umm Qasr during Operation 'Iraqi Freedom' in 2003. It has also been the subject of a successful UUV Equipment Technology Demonstration programme managed by QinetiQ used to establish the operational capability required by the RN and assess the technical maturity of off-the-shelf UUV technology.

Richard Scott

JDW Naval Editor, London

Contract signed with Atlas for information infrastructure project

A contract has been signed with the Atlas Consortium for Increment 1 of the £2.3 billion (\$4.3 billion) Defence Information Infrastructure (Future) (DII(F)) project, UK Minister for Defence Procurement Lord Bach announced on 22 March.

The Atlas Consortium, which was named as preferred bidder for DII(F) earlier this month, comprises EDS as lead contractor, Tier 1 partner Fujitsu Services and key subcontractors General Dynamics, EADS Defence and Security Systems and LogicaCMG.

The DII(F) project replaces numerous individual information systems throughout the UK Ministry of Defence (MoD) with a single, more efficient information infra-

structure under a single contract. It will enable better communication between 340,000 military personnel and civil service staff.

The network plans to tie headquarters, battlefield support and front-line units together, linking about 150,000 desktop terminals and 300,000 users in about 2,000 locations.

DII(F) will ensure the MoD meets its network-enabled capability goals, including the "ability to transform the capability of the armed forces through a single network of information" and will also enable greater interoperability between the UK armed forces and their allies.

A statement issued by the MoD stated that further

increments of the project, which has a total budget of some £2.3 billion over 10 years, would follow the MoD's evaluation of Increment 1.

Bach said he was confident the DII(F) programme would deliver real benefits for the MoD.

"This is also good news for industry as I am pleased to say that this contract will sustain over 2,000 jobs in the UK's IT sector," he said.

A spokesman for the MoD told *JDW* the strong bid submitted by Atlas meant an agreement was reached quickly after the consortium was named preferred bidder.

Tony Skinner

JDW Staff Reporter, London

EUROPE

Czech L-159s cannibalised

JIRI KOMINEK *JDW Correspondent*
Prague

The Czech Air Force has been forced to cannibalise mothballed Aero Vodochody L-159 Advanced Light Combat Aircraft (ALCA) for spare parts to keep its active fleet operational, Czech media reported this month.

The claims were aired by TV Prima, a commercial Czech television station.

However, the Ministry of Defence (MoD) rejected claims the surplus aircraft were being used for spare parts, saying that Czech law

forbids such activities.

"The 47 surplus aircraft that were made redundant and designated for foreign export have not, and will not, be stripped for spare parts," said Andre Cirtek, spokesman for the Ministry of Defence (MoD).

"As for the remaining six aircraft, the law forbids the air force from cannibalising them for spare parts."

In 2003 the MoD announced it would downsize the air force fleet of 72 L-159 aircraft as a result of extensive cuts in the defence budget and would offer surplus aircraft to foreign customers. After losing one

The Czech MoD has denied claims it is cannibalising L-159s for spares

P Allen/Jane's; 0563499

aircraft in a February 2003 crash, the service's fleet was reduced to 18 operational aircraft and six aircraft to be held in reserve.

However, industry sources told *JDW* that the practice of using excess aircraft for spares was taking place. "The Czech Air Force is forced to cannibalise the aircraft held in reserve because it takes up to one year for Aero Vodochody to deliver spare parts since the MoD has failed to sign a comprehensive long-term logistics support agreement with the manufacturer," one source told *JDW*.

Cirtek confirmed that such a logistics supply agreement had not been made to date.

"It is true that no long-term logistics support agreement has been reached between the MoD and Aero Vodochody, and both sides are cur-

rently negotiating over the terms of such an agreement," he said.

When asked how the MoD would secure spare parts for its L-159 should the aircraft manufacturer be forced into bankruptcy by the government, Cirtek was more guarded.

"At this point such prospects are pure speculation. However, in a purely hypothetical context the MoD could theoretically approach the subcontractors themselves, who currently supply systems and components for the L-159 to Aero Vodochody," he said.

Concerns have arisen over the fate of the aircraft maker after the Czech government announced it would give the company until October or November 2005 to turn-around its financial situation or face bankruptcy proceedings.



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New fire control system for UK artillery units

CHRISTOPHER F FOSS *JDW Land Forces Editor*
London

Lockheed Martin Missiles and Fire Control has been awarded a contract worth £10 million (\$18.4 million) by the UK Defence Procurement Agency Future Artillery Weapon Systems (FAWS) Integrated Project Team under the US government's Foreign Military Sales programme for the supply of 15 of the latest Future Fire Control Systems (FFCS).

They will be installed in the M270 Multiple Launch Rocket Systems (MLRS) currently fielded by the British Army's Royal Artillery to bring them up to the latest US Army M270A1 standard.

They will also be fitted with the latest Electric Launcher Drive System (ELDS) under a separate contract awarded to DRS Technologies.

The Royal Artillery took delivery of a total of 63 M270 MLRSs. Four came direct from the US production line and the others from the European production line.

They were deployed with three Royal Artillery Heavy Regiments, the 5th, 32nd and 39th, with each having a headquarters battery, locating battery and two

MLRS batteries each with nine launchers to give a total of 18 launchers per regiment. The UK did not deploy MLRS during the 2003 combat operations in Iraq (Operation 'Telic').

As a result of the Options for Change defence review and the Strategic Defence Review, the 32nd Heavy Regiment has been re-rolled with unmanned aerial vehicles. Four MLRS are being converted into repair and recovery vehicles by Insys.

The current FCS installed in the UK MLRS cannot fire the latest 227 mm Guided MLRS (GMLRS) rocket or the Army Tactical Missile System (ATACMS) – munitions that are expected to be ordered by the UK from the US production lines.

The in-service MLRSs used by the Royal Artillery currently fire Phase I and Phase II rockets. Phase I has a maximum range of 31.6 km and carries a total of 644 submunitions that are not fitted with a self-destruct mechanism. The Phase II rocket, used only by Germany and the UK carries 28 anti-tank mines.

However, GMLRS has a maximum range of over 60 km and carries 404 submunitions, each of

which is fitted with a self-destruct mechanism.

The DPA has confirmed that following initial procurement of GMLRS, follow-on procurement will be of the unitary warhead type, which will be IM (insensitive munition) compliant and have a range of over 70 km. The FFCS allows the M270A1 MLRS to fire the GPS-aided Block 1A ATACMS which has a range of 300 km.

The fielding by the UK of GMLRS and ATACMS will give the Royal Artillery a significant increase in range and accuracy and a reduction in logistic resupply requirements as less munitions will be required to neutralise a given target.

It is expected that an additional order will be placed for a further batch of 24 FFCS for installation in the Insys Lightweight Mobile Artillery Weapon System (Rocket), which is currently at the assessment phase.

While the UK adopted the US FFCS, the other European MLRS users (France, Germany and Italy) opted for a European solution.

Following a competition, EADS was awarded a EUR41.5 million (\$54 million) contract in mid-2003 for the European Fire Control System (EFCS), which will be installed in French, German and Italian MLRS units.

Jane's For more, go online
www.janes.com
'M270 Multiple Launch Rocket System' (Jane's Armour and Artillery)
'UK light artillery system reaches prototype stage' (JDW 19 January 2005)

Swedish serial production NH90 makes first flight



NH: 0590888

The first serial production Swedish Armed Forces NH Industries NH90 multirole medium helicopter made its first flight on 18 March. The flight of the high-cabin variant at partner company Eurocopter's Marignane facility in France follows first flights for German serial production NH90s in May 2004 and Finnish and Italian NH90s in September the same year. Sweden has ordered 18 high-cabin aircraft, 13 for troop transport and search and rescue, and five for anti-submarine warfare. In total 443 have been ordered by 11 countries, which includes options and a planned 12 for Australia. The Swedish NH90 will remain in France for systems integration and type qualification work.

Damian Kemp *JDW Aviation Editor, London*

Jane's For more, go online
jdw.janes.com

'Finnish, Italian NH90 variants fly' (JDW 29 September 2004)

Dutch plan to double targeting pod inventory

The Netherlands Ministry of Defence (MoD) on 16 March announced a EUR45 million (\$59 million) programme to procure 20 additional targeting pods for its fleet of Lockheed Martin F-16AM/BM multirole fighter aircraft.

The new pods will be of the latest generation, equipped with infra-red target designator and laser spot tracker technology, as well as the ability to autonomously determine the GPS co-ordinates of a target, the MoD said. Introduction into service will be completed by mid-2008.

The pods will supplement the 20 Lockheed Martin Low-Altitude Navigation & Targeting Infra-Red for Night (LANTIRN) targeting pods that entered service with the Royal Netherlands Air Force (RNLAF) in 1999. Since then they have been in near-continuous operational use in Afghanistan, Kosovo, and Serbia.

RNLAF sources confirmed that Lockheed Martin's Pantera pod (a variant of the pod flown on US Air Force F-16s that is also used by Norway and has been ordered by Oman and Poland) is a leading candidate solution, although other contenders have not yet been discounted.

Doubling the targeting pod inventory from 20 to 40 is one of the measures that will be taken by the RNLAF to keep its F-16s up to date until 2020.

The proposed F-16 replacement aircraft, Lockheed Martin's F-35A Joint Strike Fighter (JSF), is "expected to slowly begin introduction into service during the next decade", according to Dutch State Secretary for Defence Procurement Cees van der Knaap.

Based on the country's ambition level to be able to simultaneously deploy two 18-aircraft fighter squadrons in support of high-intensity warfare crisis-response operations, it will be necessary to maintain the capability to deploy at least one full squadron of F-16s up to 2020, he added.

Other measures to further improve the F-16AM/BM capability include the acquisition of GPS-guided precision weapons, and the introduction of the M5 release of hardware and software upgrades.

• Separately, the RNLAF has invited Lockheed Martin Missiles and Fire Control to submit a bid by 14 April for the supply of 318 BDU-59A/B laser-guided training rounds for delivery in October 2005.

Joris Janssen Lok;

JDW Special Correspondent; The Hague

ASIA PACIFIC

Vietnamese coast guard acquires electro-optic sensor system

Vietnam has taken delivery of an Israel Aircraft Industries/Tamam Division Plug-in Optronic Payload 200 (POP 200) electro-optic sensor suite to equip a coast guard vessel and is likely to obtain five additional systems.

The POP 200 is a modular, compact, lightweight electro-optical payload designed for day/night surveillance, target acquisition, identification and location.

It consists of a 260 mm diameter stabilised platform with a replaceable plug-in sensor unit, which may be configured to meet customer requirements.

The system was originally designed for unmanned aerial vehicles but it has since been adapted for use on light aircraft and helicopters together with ground and sea applications.

The first delivery to Vietnam took place in late January at a cost of nearly \$200,000, sources told *JDW*.

Vietnam formed its coast guard in 1998 and has recently been bolstering its capabilities.

The service has six ships currently under construction in local shipyards, each of these are coastal patrol boats displacing about 150 tons. It also operates at least two Polskie Zakłady Lotnicze (PZL) M28 Skytruck short take-off and landing aircraft recently obtained from Poland.

Robert Karniol
JDW Asia Pacific Editor
Bangkok

India trials Nag missile with live warhead

ROBERT HEWSON *JDW Special Correspondent*
London

India has undertaken the first trial firings of a Nag (snake) anti-tank guided missile (ATGM) fitted with a live warhead.

The two launches, carried out in mid-March at the Indian Army's Ahmednagar range near Maharashtra, were the latest in the missile's long-running test programme and the first to demonstrate an effective level of operational capability. It is not clear if both missiles were armed, but in at least one case a moving tank target was engaged and destroyed at a range of 4,000 m.

The missiles were launched from one of the purpose-built NAMICA vehicles (Nag Missile Carrier, a modified BMP). Director Atul Sen Prahada of the Defence Research and Development Laboratory said: "Army officials were given a demonstration of the capability of Nag and they were satisfied."

The Nag is one of a family of indigenous tactical missiles under development as part of India's national Integrated Guided Missile Development Programme. The prime contractor is Bharat Dynam-

ics, working with the Defence Research and Development Organisation.

However, development of the Nag has been protracted. The project was launched in the late 1980s and the first test launch occurred in November 1990. The missile itself is an ambitious attempt to build a modern 'fire-and-forget' weapon with a multi-mode terminal seeker that can be air- or vehicle-launched. The seeker currently fitted is understood to be an infra-red imaging unit.



At least one of the Nag ATGWs launched in mid-March destroyed a moving target at a range of 4,100 m

Jane's: 0089180

Low-rate Nag production began in 2000 but the Indian Army continues to conduct service trials. The Nag, when finally deployable, is earmarked to arm the NAMICA and Hindustan Aeronautics Limited's Dhruv helicopter (formerly the ALH).

While Bharat Dynamics continues to improve the Nag, it is also working on the development and production of the MILAN Extended Range ATGM in co-operation with MBDA Missile Systems. The Nag is intended to replace India's earlier MILANs and the 9K113 Konkurs (NATO designation: AT-5 'Spandrel') ATGM.

A renewed collaborative agreement between the Indian and European missile houses was announced last month and MBDA is thought to be assisting with other indigenous programmes in India, perhaps including the Nag and the Astra air-to-air missile.

Jane's For more, go online
jdw.janes.com

'In Brief: India test fires Nag anti-tank missile' (*JDW* 12 September 2001)

Singapore awards Challenger periscope contract

The Republic of Singapore Navy (RSN) awarded a contract to US-based Kollmorgen Electro Optical in January for new periscope systems for the Challenger (Sjoorman)-class submarine, sources have told *JDW*.

Kockums AB of Sweden and locally based ST Marine will jointly install the periscopes in Singapore. Further details of the contract are not known.

The RSN has four Challengers, originally commissioned by the Swedish Navy in 1968-69. *Challenger* was re-launched on 26 September 1997 after a refit in Sweden; *Conqueror* and *Centurion* followed on 28 May 1999 and *Chieftain*

on 22 May 2001. These are in service with the RSN's 171 Squadron, based at Changi.

Kollmorgen produces several electro-optical periscope systems but it is unknown which model was selected by the RSN. These systems include: the Model 76, a modular periscope system with common components for the attack and search versions; and the Model 90, developed to allow the operator to search the sea surface during day and night utilising a thermal imaging subsystem and, at the same time, to supply a direct viewing visual channel.

The Model 76 consists of a mast unit with optical train, a display and control unit including a

split-beam binocular eyepiece, a 35 mm camera and training handles. There is a hoisting yoke, a control unit and a junction box.

The Model 90 combines a wide range of sensors in one periscope: a thermal imaging camera, monochrome charge-coupled device TV camera, 35 mm camera, laser range-finder as well as passive TV and visual stadiometer, omni radar early-warning antenna, a radar direction-finding antenna and GPS. A remote-control station is also supplied, in addition to a complete control datalink to the submarine fire-control system.

Robert Karniol *JDW Asia-Pacific Editor*
Bangkok

TLFeBOOK

Indonesia bolsters eastern region defence

ROBERT KARNIOL *JDW Asia-Pacific Editor*
Bangkok

The Indonesian Armed Forces (TNI) are bolstering their presence in the country's eastern region with a substantial build-up involving both forces and facilities.

The expansion involves ground troops, marines and air-defence capabilities. It is centred on Papua province, which borders Papua New Guinea and was formerly known as Irian Jaya, although covering a broader area.

The TNI have traditionally focused their strength on the central and western portions of the sprawling archipelago, with coverage in the eastern region relatively light.

The ground force build-up involves the planned creation of a new division in the Strategic Reserve Command, known as KOSTRAD. This is the TNI's

largest and most important operational command, with two divisions and an airborne brigade.

The new division will be formed around the nucleus of the 3rd Airborne Infantry Brigade, KOSTRAD commander Lieutenant General Hadi Waluyo announced on 16 March without indicating a time-frame.

This unit is currently based in Makassar, South Sulawesi, but will be shifted to a new site in Papua once the force expansion process is more advanced.

The marine corps, an element under the navy, is also undergoing a force expansion following a reorganisation introduced in March 2001. This is currently comprised of the 1st Brigade, headquartered in Surabaya, and the 2nd Brigade, headquartered in Jakarta. The 3rd

Brigade, now based in Teluk Ratai but earmarked to eventually move to Medan, was formed last year. Planning is presently under way to launch the 4th Brigade.

The 4th Brigade will include the 10th, 11th and 12th battalions with its formation beginning around the first of these units.

This process is still in planning but Jakarta-based sources say the marine corps earlier this year started to build a new base for the 4th Brigade in Biak, Papua, for scheduled completion in 2008.

The 3rd Brigade will continue to cover Indonesia's western region. The 1st Brigade, currently focused on the eastern region, will be responsible for central Indonesia together with the 2nd Brigade. The 4th Brigade will cover eastern Indonesia.

Meanwhile, also in Biak, the joint-service National Air Defence Command is building a new base to

oversee ground-based air-defence operations in the eastern sector command known as Kosek IV. One radar has already been installed at this site, following the creation of Kosek IV about two years ago, and a second radar station has been installed on Seumlaki Island to the southwest. Two additional air-defence radars will eventually be obtained for placement at two other sites to complete the coverage.

Commenting on the KOSTRAD expansion and focus eastward, Lt Gen Hadi said this was based on evaluating potential threats to Indonesia's security. He added that it also takes into consideration the security of major sea lanes passing through the archipelago.

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'Indonesia reinforces marines'
(JDW 18 February 2004)



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MIDDLE EAST/AFRICA

South African vehicle projects enter evaluation phase

HELMOED-RÖMER HEITMAN *JDW Correspondent*
Cape Town

Project Hoefyster (Horse-shoe) is aimed at the acquisition of 264 new-generation infantry combat vehicles (ICVs) to replace the Ratel family of vehicles, while Project Vistula aims to acquire several hundred 8 x 8 and 6 x 6 tactical logistic vehicles to replace the present family of Samil-50 and Samil-100 trucks.

Project Sepula, intended to replace the Casspir and Mamba armoured personnel carriers, is being reviewed and may be revised to take maximum advantage of commonality with the

vehicles of the other two projects. The more capable 30 per cent of the vehicles could be based on a variant of the new ICV platform, while the remainder could use a platform employing the dynamic components of the new tactical trucks.

The response to the Hoefyster Request for Proposals has disappointed, with only one vehicle bid, a variant of the Patria 8 x 8 Armoured Modular Vehicle (AMV). The lack of interest by other foreign companies is thought to be the result of several factors, key among them the combination of a demanding

requirement and limited budget and the stringent offset requirements. Some potential bidders probably doubted whether the project would go ahead at all. South African companies found the timescale too tight, with only a year to deliver a working prototype from, in their cases, new designs.

The AMV variant is being proposed by a consortium led by Denel and comprising Patria, BAE Systems Land Systems – OMC, which will manufacture the vehicles in South Africa, and Land Mobility Technologies (LMT), which will work on the mine-protection package and on the system design level.

The vehicle is termed the Modu-

lar Combat Vehicle (MCV) in the form being proposed and is fitted with the LCT-30/35 turret developed by Denel. This is a two-man hunter-killer turret armed with a Mk 44 Bushmaster 30 mm chain gun and a coaxial 7.62 mm machine gun.

The demonstration vehicle is currently undergoing evaluation at Armscor's Gerotek test centre and will also be taken to other Armscor and South African National Defence Force facilities for further trials and evaluation. The evaluation programme is expected to be finalised by the end of May. Any deviations from the specification and any shortfalls to the user requirement will then be discussed with the consortium pending a decision to enter into detail and cost negotiations.

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'South African vehicle projects taking shape' (*JDW 8 September 2004*)



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US optimistic about Iraq draw-down

GREG GRANT *JDW Special Correspondent &*
ANDREW KOCH *JDW Bureau Chief*
Baghdad & Washington, DC

Delivering an optimistic assessment of the situation in Iraq, US Marine Corps (USMC) Lieutenant General James Conway, director of operations on the Joint Staff, said continued gains by US-trained Iraqi security forces could allow the US to begin withdrawing its forces "in a year or two" if present trends continue.

Gen Conway claimed during a briefing on 22 March that Iraqi security forces are beginning to defeat insurgents battling for control of the country. "We are seeing Iraqis starting to take charge of their own situation," he said.

The US draw-down will be enabled, Gen Conway said, as the US shifts its emphasis in Iraq from combat operations to training Iraqi government forces to operate in battalion-sized units. US commanders have been told that one third of their combat power is henceforth to be dedicated to training and advising the Iraqi military through embedded teams of US officers as well as increased numbers of joint US and Iraqi patrols working "side by side".

The exact number of Iraqi security personnel trained and equipped to fight the insurgents – as well as their effectiveness – has become a contentious issue in recent months, but Gen Conway insisted that there are currently 147,000 trained and equipped Iraqi security forces out of a goal of 270,000. The accounting of Iraqi security forces took centre stage during January's Senate confirmation hearings of US Secretary of State Condoleezza Rice. Democ-

rat Senator Joseph Biden dismissed Bush administration claims and said the total of trained and ready-for-combat personnel was closer to 4,000.

For an administration under pressure to expedite the US withdrawal, quantity appears to be favoured over quality. However, from the perspective of US trainers in Iraq it is clearly a question of how one defines 'trained'.

"The average Iraqi soldier only gets two weeks' training, it's a shake-and-bake operation," said Lieutenant Colonel Shawn Weed, an intelligence officer with the US Army's 3rd Infantry Division (3ID). Problems are also apparent in the Iraqi Army's command structure. "[Iraqi] battalion commanders are not picked because of their abilities; they are picked because of their political connections. The Iraqi Army is not a meritocracy."

Great strides

Captain Daniel Gelderman of the US Army's 1st Cavalry Division, who spent the past year as an embedded trainer with an Iraqi Army battalion, acknowledged the Iraqi soldiers he mentored for a year had made great strides. However, he also pointed to their limitations: "I honestly thought they'd be farther along when we started training them." Capt Gelderman said the presence of US advisers accompanying Iraqi units is vital to provide Iraqi soldiers with the confidence that, should they run into any real



The US hopes the handing over of operations to Iraqi security forces like these **National Guard** soldiers will allow it to expedite troop withdrawals from Iraq

PA; 0590896

opposition, US main battle tanks and attack helicopters are but a radio call away.

Gen Conway said that as Iraqis begin to shoulder more of the security burden, Washington wants to "completely pull back to less visible compounds", hinting at a sentiment commonly shared among commanders in Iraq that the large US presence there has contributed to the growth of the insurgency. There is a realisation among troops that the often heavy-handed US presence has contributed to a nationalist backlash among large segments of the Iraqi populace. This awareness has increased the sense of urgency in putting an 'Iraqi face' on the security forces in Iraq, with US forces relegated to more of a support role in the background.

The accidental shooting of an Italian security agent at a US checkpoint on 5 March highlighted what has long been the most contentious aspect of US deployment: that of Iraqi civilian fatalities resulting

from unfamiliarity with US checkpoint or vehicle column security procedures. Colonel Edward Cardon, a 3ID brigade commander acknowledged that US soldiers in Iraq have been "too lethal" and he has implemented changes to checkpoint security procedures in southern Baghdad, his area of operation. The hope is that by replacing the many US checkpoints and patrols with Iraqi Army and police forces, civilian casualties will be eliminated.

US officers in Iraq say there is a sense that the Iraqi insurgency has entered a new phase with fewer attacks directed against US forces and more targeted at the symbols of the new Iraqi government, particularly the army and police. While this new phase may allow Washington to draw down US forces it also points to a more entrenched Iraqi insurgency that is still capable of making an average of 50 to 60 attacks a day and is unlikely to be defeated for years to come.

AU standby force to be in place by mid-2006

The African Union (AU) will have a 15,000-strong peacekeeping force ready by mid-2006 to deal with the continent's conflicts, according to an AU document released on 22 March.

The African Union Standby Force (ASF) will be made up of five brigades drawn from across Africa and will be in place by 30 June 2006, according to the AU document.

The document was distributed at the opening of a two-day meeting in Addis Ababa between representatives of the AU and African regional economic groups to discuss how to set up the ASF.

By 30 June 2006, troops earmarked for the force will be in training while simultaneously working with UN peacekeepers in field operations under UN command. The ASF will be able to be deployed alone in peacekeeping operations by 2010 under its own command, according to the AU document.

The meeting in Addis Ababa drew delegates from the Economic Community for West African States, the Economic and Monetary Community of Central Africa, the Inter-Governmental Authority on Development, the Southern Africa Development Community as well

as the Union of the Arab Maghreb.

"We are here to exchange information so as to draw a roadmap [for the establishment of the ASF] and prepare for talks with the G8 to map out support plans for the implementation of the African force," Said Djinnit, a commissioner of the AU's Peace and Security Council, told delegates.

Robin Hughes *JDW Middle East Editor, London*

Jane's

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'Central African states commit to standby force' (*JDW* 12 January 2005)

BUSINESS



Giat Industries' Leclerc main battle tank is behind the company's loss in revenues

Giat Industries; 1042353

Slow Leclerc deliveries behind Giat profit loss

French land armaments group Giat Industries has posted a net loss of EUR80 million (\$107 million) in 2004 revenues – a 20 per cent drop on 2003.

The drop is due to a sharp slowdown in deliveries of Giat Industries' Leclerc main battle tank (MBT) to the French Army during 2004.

Giat Chairman Luc Vigneron said revenue tumbled from EUR729 million in 2003 to EUR590 in 2004 because Giat had supplied only 12 of the 45 Leclerc MBTs it had been scheduled to turn over to the French Army in 2004.

Vigneron said the slowdown was caused by "technical problems" with Leclerc's software and electronic components.

A recent report by the parliament's defence committee outlined hitches with a new rangefinder for Leclerc along with problems with the MBT's turret and periscope.

Giat's net loss for 2004 compared to an even steeper EUR640 million shortfall in 2003 but EUR572 million of that was due to a radical restructuring aimed at cutting the company's payroll from around 6,000 in 2003 to 2,200 in 2006.

Vigneron said he expected Giat's sales in 2005 to rise to EUR813 million and that the group, which had lost billions over the past decade, remained on track to break even financially in 2006.

The French Army has ordered 406 Leclercs and the last were to be delivered this year. However, the delay that held up deliveries of 33 Leclercs in 2004 means the last batch of MBTs will probably be supplied in 2006.

J A C Lewis

JDW Correspondent, Paris

Turkey to locally develop strategic arms systems

LALE SARIIBRAHIMOGLU JDW Correspondent
Ankara

Turkey will focus on the indigenous development of strategic arms systems, including guided ammunition, unmanned aerial vehicles, software and systems integration, as part of its policy to lessen dependency from abroad on critical technologies, Turkish Defence Industries (SSM) Undersecretary Murat Bayar, told JDW.

Outlining his procurement strategy, Bayar said that only 25 per cent of some \$3.5 billion earmarked for defence purchases annually had remained in Turkey as a result of joint production.

"Due to dependency abroad on certain critical technologies, politically [Turkey is] under the control of foreigners," Bayar said.

"Currently Turkey locally produces systems such as armoured vehicles, electronic command-and-control systems, unguided missiles, artillery guns and rockets. It will not be feasible for Turkey to develop indigenous jet fighters, frigates, submarines or small resolution observation satellites – that will be costly."

Instead, Turkey pursues a policy of joining international consortia to produce costly systems, Bayar said.

"For example, I insist that Turkey must be responsible for the systems integration of the modernisation of an additional 48 F-4E Phantom II attack aircraft instead of

Israel being the main contractor. It is very important that Turkey should gain ability in systems integration," he said.

Turkish Minister of National Defence Vecdi Gonul has so far declined to sign a Turkish General Staff (TGS) recommendation that Israel Aircraft Industries, as main contractor, upgrade the F-4Es.

Bayar, meanwhile, dismissed press reports that the armed forces have been encroaching on the powers of SSM, a civilian procurement agency.

"There should be a separation of powers in procurement. The military as a user determines only the operational requirement while SSM is the procurement authority. The third actor in the procurement is the industry. The planned holding company to be set up will be the part of the industry. Only the state defence sector will merge and the private sector will do its own business," Bayar said.

The Turkish military's recent seizure of the majority of the shares of Turkish Aerospace Industries (TAI) from the civilian-run Turkish Aircraft Industries (TUSAS), effectively ending TUSAS's existence, prompted speculation over militarisation of procurement.

Plans are in place to establish a state holding company comprising the SSM and the Foundation to Strengthen the Turkish Armed Forces (TSKGV).

The military-run TSKGV will hold 80 per cent and the civilian-run SSM 20 per cent, giving the military control of the holding company.

However, Bayar said he planned to privatise 20 per cent of SSM shares since it will continue to be the procurement body distributing workshare to the holding and to the others.

SSM, which in May 2000 revised the offset guidelines to permit indirect offset/civilian fulfilment, has reversed that decision, calling on bidders to come up with direct offset commitments only. It launched the first example with the attack helicopter tender.

The Foreign Trade Undersecretariat will be in charge of monitoring the fulfilment of indirect offset commitments worth around \$800 million under previously signed defence contracts, Bayar said.

The offset commitment will be a minimum of 60 per cent of the total contract price in the attack helicopter tender.

Export of defence/aerospace goods and services or firm orders to local defence industry will be covered by offset agreement.

The Request for Proposals was issued on 10 February following the cancellation in May 2004 of a long-stalled attack helicopter programme.

Jane's For more, go online
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'Turkey re-opens attack helicopter tender, raising hurdle for US'
(JDW 18 February 2005)

Sagem, Snecma decide on 'Safran' as name for the future

'Safran' will be the name of the new company to be formed out of a planned merger in May between France's aero engine manufacturer Snecma and telecommunications and defence electronics firm Sagem.

The name was chosen because it is the French word for the rudder blade on a boat and evokes the idea of forward

movement towards a goal, the companies said. Safran, in French, is also the name of the spice, saffron. The firms say saffron "inspired the beginning of international trade, opening channels between East and West".

The inherent merger between Snecma and Sagem will result in a company with combined sales of around EUR10.4 billion

(\$13.9 billion) and a 55,000-strong payroll.

Current Snecma Chairman Jean-Paul Béchat has been appointed as chairman of the new group while Sagem's chief executive Gregoire Olivier will be co-managing director with Yves Imbert from Snecma.

J A C Lewis

JDW Correspondent, Paris

Rolls-Royce wins naval gas turbine support contract

Rolls-Royce has secured a \$260 million long-term service and support contract for the Olympus and Tyne marine gas turbines powering 27 ships in service with the Belgian, French, Netherlands and UK navies.

The company will support Olympus and Tyne for the next 12 years, after the ships are due to leave service. Under the contract, awarded by the UK Defence Logistics Organisation on behalf of all four navies, Rolls-Royce takes responsibility for ensuring power being available to keep ships at sea, rather than entering into individual service and overhaul contracts for each gas turbine.

The deal covers the UK Royal Navy's Invincible-class carriers (each powered by four Olympus gas turbines), Type 42 destroyers (two Olympus and two Tyne in each) and four Type 22 frigates (two Tyne in each); seven French Navy Georges Leygues-class frigates (two Olympus in each); three Belgian Navy Wielingen-class frigates (one Olympus each); and one Royal Netherlands L-class frigate (two Olympus and two Tyne).

Richard Scott *JDW Naval Editor, London*

US Bell withdraws from Turkish helicopter competition

LALE SARIIBRAHIMOGLU *JDW Correspondent Ankara*

US company Bell Helicopter-Textron has withdrawn from Turkey's multi-billion dollar attack and reconnaissance helicopter acquisition project due to what it termed as business and technical risks associated with the conditions of the contract.

Turkish Defence Industries Undersecretary (SSM) Murat Bayar told *JDW* that Bell withdrew from the tender in a letter written on 18 March and submitted to the SSM.

The letter mentioned Bell's past co-operation with the Turkish military, which has been using its Super Cobra and Cobra attack helicopters as the backbone of army aviation.

The company stated that due to the high risks associated with the terms of the contract, Bell could not bid in the project. However, the company stated its readiness to sell helicopters to Turkey off the shelf if the tender process changed. Turkey had been negotiating with Bell for the AH-1Z King Cobra attack helicopter for almost three years before the tender was cancelled on 14 May 2004 on the grounds that Bell's bid did not fit into the SSM's plans to emphasise local industrialisation instead of production under licence.

The SSM re-opened the attack helicopter tender on 10 February when it released the request for proposals (RfP) to buy 50 helicopters, with an option for a further 41. The RfP includes a 74-page contract with non-negotiable terms and conditions that make it harder in



Bell has withdrawn its **AH-1Z King Cobra** from the Turkish competition

Bell Helicopter Textron; 0048204

particular for US companies to compete in the tender, which has a deadline of 10 June.

A meeting held by the SSM with the bidders on 10 March also indicated that other companies raised similar concerns over contract terms and conditions that impose, among other things, severe penalties in the case of a delay in the fulfilment of the conditions. For example, the SSM reserves the right to penalise the company if the foreign government denies technology transfer and the SSM also holds foreign contractors liable in the event that Turkish-manufactured parts do not work.

"The majority of the contract terms in fact create obstacles not only for the US companies to bid in the project but also the European companies," said a Western bidder.

Raytheon poised to market targeting pod

Raytheon intends to use a forthcoming competition in the UK as a springboard to internationally market a second variant of its latest airborne targeting pod.

The company believes that the UK Royal Air Force's (RAF's) search for a new pod for its Tornado ground-attack aircraft will be the first opportunity for it to showcase the self-cooled variant of the AN/ASQ-228 Advanced Targeting Forward-Looking Infra-Red (ATFLIR) system, which it is producing for US Navy F/A-18s, said Dave Goold, Raytheon's business development manager for the pod.

While the company sees an opportunity for sales of up to 160 pods overall to international operators of the F/A-18, it sees a potential overseas market twice that size with the self-cooled variant, which fits on aircraft such as the F-15E, F-16 and Eurofighter Typhoon fighter aircraft as well as the Tornado, Goold told



JDW on 22 March.

"The self-cooled market is essentially one that could grow very rapidly," he said.

The RAF could issue requests for bids as early as 2006 to replace the Tornado's current Thermal Imaging And Laser Designation (TIALD) pods by around the end of the decade.

Raytheon is beginning to market a self-cooled version of its ATFLIR internationally (shown here on a **US Air Force F-15E**)

Raytheon; 0590893

Lockheed Martin and Northrop Grumman are also expected to bid.

The former builds the Precision Attack Navigation and Targeting with Extended Range Acquisition (PANTERA) system, which Norway, Oman and Poland have already chosen. Northrop Grumman manufactures the Litening Advanced Targeting pod and earlier derivatives that are

in use internationally.

Goold said winning the Tornado competition would be an important step in getting a foothold in the Eurofighter market. While Eurofighter countries have said they will go with Litening pods initially, he contended that Raytheon would be well positioned nonetheless to secure Eurofighter orders.

The self-cooled ATFLIR is essentially the same system that lost several years ago to Lockheed Martin's Sniper XR pod, which is the name used for PANTERA inside the US, to equip US Air Force F-15s and F-16s. The only difference would be insights gained from experiences in building the F/A-18 version, said Goold.

Michael Sirak *JDW Staff Reporter, Los Angeles, California, and Washington, DC*

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**'In Brief - Targeting pod enters production' (JDW 9 March 2005)
'USAF selects Sniper XR pod' (JDW 29 August 2001)**

BRIEFING

GERMAN INDUSTRY

Feeling the squ€€ze

Struggling to maintain its edge, German industry faces tight budgets and export policies.

David Mulholland reports

The German defence industry is facing low domestic procurement budgets and tight export regulations, but according to defence industrialists the government finally recognises that the industry is at the cutting edge of technology and is struggling to maintain its place in the world marketplace.

It is unclear, however, how the government's new-found appreciation of the difficulties facing the industry will translate into changes.

One of the key challenges is Germany's tight defence budget. After a long period of decline the defence budget has finally stabilised but, nonetheless, Germany spends less than 1.5 per cent of its gross domestic product on defence: significantly below the NATO average of around 2.2 per cent. The question confronting industry is whether the current level of funding is enough.

Germany's 2005 defence budget is EUR24.04 billion (\$32.1 billion), says Jens Krüger, spokesman for the German Aerospace Industries Association (BDI). In 2004 Berlin froze its EUR24.24 billion defence

budget for three years, planning an increase of only EUR1 billion in 2007, but this has not stopped the government from chipping away at the 2004 and 2005 budgets.

Within this year's budget, 24.6 per cent is earmarked for investment and while the budget is not expected to increase, there are plans to increase investment to 28.9 per cent. German Defence Minister Peter Struck is also trying to negotiate additional funding.

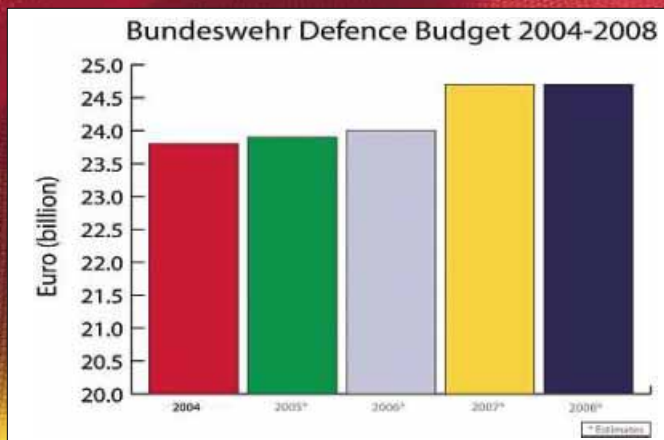
It is unclear if the defence arm of the Ger-

man Industries Association (BDI) has a strategy to address the challenge of the weak budget, as *JDW* was unable to contact individuals within the association.

Exports

Germany has one of the tightest export control regimes for military technology. Turkey, for example, cannot receive some weapon systems from Germany because of human rights' issues involving the Kurds; and Taiwan is not permitted to import German weapons, which has stopped submarine manufacturers from selling diesel-electric vessels to Taiwan.

— continues on page 22



Berlin froze its EUR24.24 billion defence budget for three years in 2004

F Valois/Jane's; 0577749

IN AN UNCERTAIN WORLD



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GERMANY

While the EU is looking to lift the arms embargo on China, which only covers lethal weapons, there is scant chance of the German government granting export licences for China, say several German officials, as human rights' issues there would raise too much opposition.

The aerospace industry, on the civil side, may benefit, but it is difficult to envisage sales of advanced weapon technology, says one observer, noting that the Green Party section of Germany's governing Social Democrat Party (SDP)/Green Party coalition views export policy as an extension of human rights' policy.

Despite export policy constraints, Germany's defence industry holds a strong international position as demonstrated by its record export sales.

Krauss-Maffei Wegmann (KMW), with Rheinmetall as a major subcontractor, builds the Leopard 2 main battle tank (MBT), which many consider the best tank in the world. While its competitors have had some export success – the UK has exported its Challenger 2 to Oman; France has exported the Leclerc to the United Arab Emirates; and the US has exported the M1 series Abrams to Egypt, Kuwait, Saudi Arabia and soon to Australia – they pale in comparison with the Leopard 2, which has been exported to



The **A400M transport aircraft** programme benefited from a high level of self-funded research, which is characteristic of the German defence industry

Airbus Industrie; 0089525

Austria, Denmark, Finland, Greece, Netherlands, Norway, Poland, Spain, Sweden and Switzerland.

Similarly, Howaldtswerke-Deutsche Werft (HDW), now part of the ThyssenKrupp Marine Group, has built Type 209 submarines for 12 navies and still leads the world in conventional submarine technology with the Type 212A and Type 214 submarines, which use an air-independent propulsion (AIP) system based on fuel cells.

Germany is buying the Type 212A and Greece and South Korea the Type 214.

The Hellenic Navy is also upgrading three of its Type 209s with the German AIP system.

Research & development

Maintaining that level of technology, however, has proven difficult for German companies because the state funds little research. France,

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Intelligence and Insight You Can Trust

Germany, Italy, Spain and the UK combined spend EUR5.8 billion on research and development (R&D), Krüger says. That compares to more than \$40 billion spent by the US alone.

As a result, one of the characteristics of the German defence industry is a high level of self-funded research in an effort to maintain high technology levels.

For example, EADS has put EUR1 billion into research in the past five years, although that is spread throughout the company and in both civil and military research. Typically, says Rainer Hertrich, co-chief executive of the company, 6 to 7 per cent of the company's money is spent on internal research. While that includes aircraft such as the Airbus A380 super jumbo airliner, it also includes the A400M transport aircraft and the boom for the A330 tanker.

Another example is KMW, 25 per cent of whose workforce comprises development engineers. KMW developed the Dingo and Mungo light armoured vehicles with internal funding. Such a high level of self-funded research is necessary for the companies to maintain their technologies in the face of lavishly financed US research and well-supported French and UK research.

According to the newly created ThyssenKrupp Marine Systems Group: "The support governments give to their shipbuilding industries varies significantly. Countries with state-owned shipyards are more willing to support this industry specifically in terms of export relations than those countries – such as Germany – where shipbuilding is totally private." However, German shipyards benefit from national naval shipbuilding programmes such as those for Type 123 and 124 frigates as well as Type 212 submarines.

Some naval research does receive government support, says ThyssenKrupp Marine Systems, noting the example of Type 212 submarines: "a great success". On the other hand, ThyssenKrupp has exclusively funded MEKO frigate modular technology and this has also become a convincing success. "This underlines and reflects the necessity that both sides – the government and the companies – have to undertake any effort to improve research and development for the sake of the economic success of the naval industry in Germany," according to the company.

Staying German

Going hand-in-hand with self-funding is keeping the German defence industry German. This has been a prime concern of the government and, to a slightly lesser degree, the companies themselves.

Earlier this year, the German part of EADS, which includes nearly all of Germany's aerospace business, had to fight against the French part of the company to maintain a balance between the two sides. The French government backed a plan for EADS to acquire French multinational defence electronics company Thales. Such a merger would have given the French side greater weight in the company.

DaimlerChrysler and the French holding com-

pany SOGEADE, comprising Lagardère and the French state, each hold slightly more than 30 per cent of shares in EADS. Spanish state holding company SEPI owns 5.5 per cent. More than 34 per cent of its shares are widely distributed among various shareholders and quoted on the Frankfurt, Madrid and Paris exchanges.

The French government's push for Thales coincided with current head of Airbus Noël Forgeard's bid to become the sole chief executive of EADS when the current French co-chief executive, Philippe Camus, steps down in July. This is something for which Forgeard has lobbied for

years. The French plan met strong and immediate resistance from the German side of the company in a battle largely fought through the press. The German side counter-proposed that Tom Enders, the current head of EADS' defence business, replace Rainer Hertrich, the German co-chief executive of the company, when Forgeard steps in.

Sources inside the company note that Enders is younger than Forgeard and as such is expected to stay at the helm longer. One source adds that Enders is strong-willed and is expected to hold his own against Forgeard in protecting the

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BRIEFING

company's German interests.

For the moment, talk of a merger with Thales is off. Camus says that there were discussions regarding a merger, but they have fallen through and no talks are continuing.

Foreign ownership

The German government passed a law less than two years ago requiring government approval of any foreign company buying a 25 per cent or greater share in a German defence company.

The ownership law was prompted by the acquisition of the HDW submarine yard by One Equity Partners (OEP), the investment arm of Chicago's Bank One. The German regulatory authorities cleared OEP's buyout of a controlling stake in the company as a purely financial acquisition.

The acquisition raised eyebrows in the defence community because OEP does not have a history of investing in defence companies. Many speculated that one of the two major shipyards in the US – Northrop Grumman and General Dynamics – was behind the deal. At the time, JDW learned that Northrop Grumman was likely to be behind the purchase.

HDW's Type 214 export design, which draws on technology from the previous Type 209 and 212A designs, is seen to offer significant potential in the overseas market.

HDW, working with Siemens, pioneered the fuel-cell AIP system that allows the submarine to remain submerged for up to three weeks at a time.

Naval consolidation

Since the law was passed, German steel and engineering giant ThyssenKrupp bought HDW from OEP and merged it with its own shipyards, Nordseewerke and Blohm+Voss, under the ThyssenKrupp Marine Systems Group. While HDW was larger than ThyssenKrupp's naval business, ThyssenKrupp is a major, diversified German conglomerate with interests in steel, automotive products, elevators and a large group of technology companies.

HDW was itself a catalyst for consolidation in the European naval sector before it was bought by OEP, having snatched up Sweden's Kockums and Greece's Hellenic Shipyards. Now the company has a broad naval base but it is unclear where it may go from here.

"The merger of HDW group and ThyssenKrupp shipyards affects, in the first place, the horizontal portfolio of the companies belonging



The German Navy will operate **Type 212A submarines**. A first batch of four should be in service by the end of 2006

HDW; 0547547

now to ThyssenKrupp Marine Systems," according to the company. It says that to save money, the different yards will specialise in certain types of ship and all of the administration will be based at the marine systems' headquarters in Hamburg, where Blohm+Voss is based.

Synergies, it says, are one of the main advantages of a merger. In the case of ThyssenKrupp Marine Systems, the company expects to make gains in sales, procurement, engineering and administration. The latter will maintain the Greek and Swedish yards.

"The Swedish shipyard has developed convincing naval ship designs such as the Australian Collins-type submarine and the Visby stealth corvette for the Royal Swedish Navy, says the company. Therefore, these shipyard capacities will definitely contribute to the success of ThyssenKrupp Marine Systems. In the case of the Greek shipyard, we have found an experienced partner with whom in the past we had successfully executed several shipbuilding programmes."

Regarding further consolidation, the company says it is already a European naval systems group and will consider further consolidation with privately owned companies with similar agendas.

It also notes that although the order book is fairly strong, opportunities for growth are less certain. "We are expecting a relatively stable number of shipbuilding contracts in these [German, Swedish and Greek] markets. The potential of the new company in terms of manpower and engineering capacities will be constant; we plan to increase our research abilities and to increase the company presence in the market. "[However] for the

time being we do not expect significant changes compared to our track record."

Neil Hampson, an aerospace and defence expert at PricewaterhouseCoopers, says that further naval consolidation could be problematic.

"What's the prize?" Hampson asks. "I can't get my head around it. If they merge with other yards in other countries it will mean 10 years of massive re-organisation. That would get you a leaner European shipbuilding business, but is it worth the time and money in the end?"

Other industry executives and observers have also questioned this. Europe has a surfeit of naval shipbuilding capacity. Unlike many other areas of defence, shipbuilding is heavily unionised and very political. Reducing capacity and making the industry leaner would entail massive fights with unions over jobs and such disputes could easily provide a long, painful and costly re-organisation.

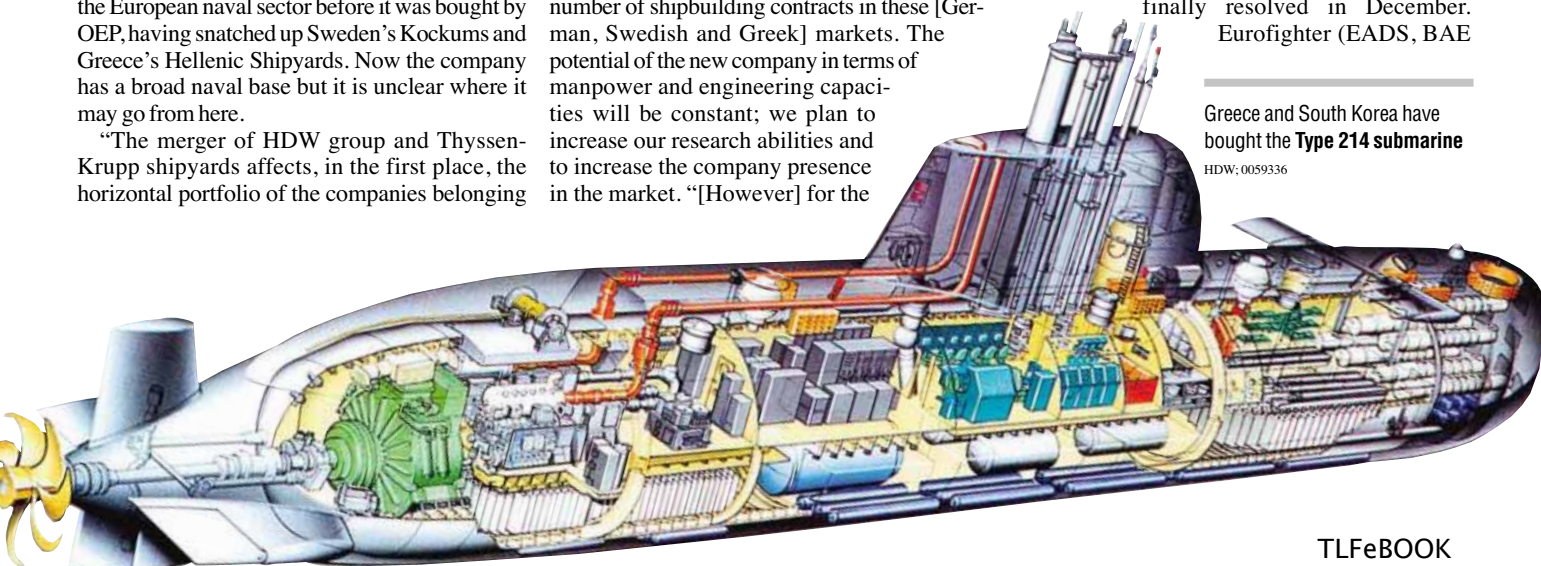
Aviation sector

Germany's current aircraft procurement commitments, including the Eurofighter Typhoon multirole fighter, the A400M strategic transport aircraft, NH Industries NH90 medium multirole helicopter and Eurocopter Tiger attack helicopter programmes, all appear to be on track.

The long-delayed Typhoon Tranche 2 was finally resolved in December. Eurofighter (EADS, BAE

Greece and South Korea have bought the **Type 214 submarine**

HDW; 0059336



I am EADS

My name is Reiner Marschlich. I'm Project Manager for the EuroHawk system, a High Altitude Long Endurance Unmanned Aerial Vehicle or HALE UAV. EuroHawk flies at 60,000 feet for 24 hours or more, reconnoitering communications in the area concerned, detecting radar emitters and continuously reporting back to base. We're teaming on the project with our American partner, Northrop Grumman. I love being part of an international team. I relish our shared passion for aerospace. I'm making my personal contribution to global security. I am EADS.

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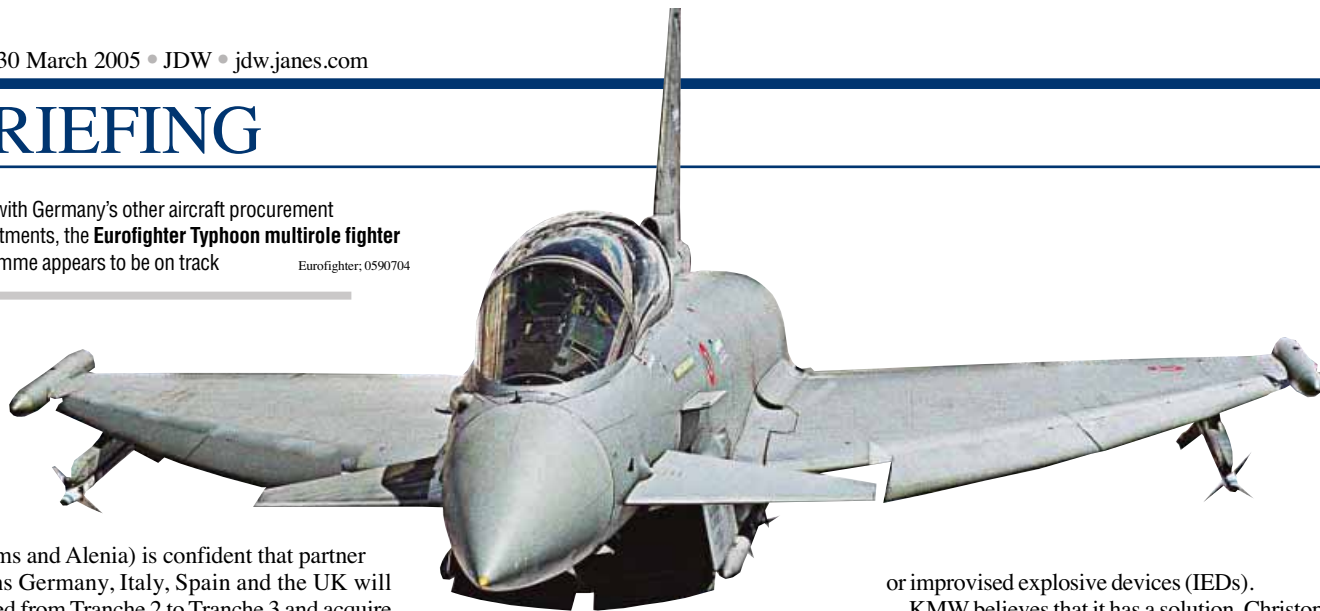


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BRIEFING

Along with Germany's other aircraft procurement commitments, the **Eurofighter Typhoon multirole fighter** programme appears to be on track

Eurofighter: 0590704



Systems and Alenia) is confident that partner nations Germany, Italy, Spain and the UK will proceed from Tranche 2 to Tranche 3 and acquire the contracted 638 aircraft (plus 90 options). Under the current framework Tranche 3 negotiations must begin in 2007.

Eurofighter has also expressed confidence that aircraft can be provided with an effective air-to-surface capability, complementing the existing air-to-air capabilities by the end of 2006.

Missile opposition

The Green Party has opposed two German armed forces programmes: Medium Extended Air Defence System (MEADS), being developed in co-operation with the US and Italy; and the programme to acquire TRIGAT Long-Range anti-tank missiles, which are due to be fitted to the army's new Tiger attack helicopters.

German companies and Struck, from the SDP, however, stress the strategic importance of the MEADS programme because it is the only NATO-commissioned defence project carried out jointly by the US and European nations.

The programme has run into opposition because the promised technology transfer from the US does not appear to be forthcoming.

The Greens have also questioned the military utility of a missile defence programme for Germany, asking why funding is going towards missile defence at the expense of other, more

urgent, requirements. This opposition has helped to create a deep division within the ruling SDP-Green Party coalition. The Greens have also called for a re-assessment of the nation's missile industry.

Member of Parliament Alexander Bonde, of the Green Party, who sits on both the budget and defence committees, says he is against Germany joining the nearly EUR1 billion development phase of MEADS because there is no current threat to counter.

Bonde also wants to cancel a contract for 900 TRIGAT missiles that are expected to cost about EUR500 million. He says TRIGAT is no longer relevant in the current strategic climate. If the programme is cancelled, the German Ministry of Defence will have to drop negotiations with Spain for joint production of the missile.

Land forces

With the occupation of Iraq, the US is finding that the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) is vulnerable to shoulder-launched rocket-propelled grenades (RPGs), which are widely available in Iraq, Afghanistan and indeed nearly everywhere that the US conceivably will conduct military operations in the future. The HMMWV is also vulnerable to mines

or improvised explosive devices (IEDs).

KMW believes that it has a solution. Christoph Müller, the company's spokesman, tells *JDW*: "We are convinced that the Dingo [all-protected vehicle] would exactly fit the requirements of the US Army and US Marine Corps in terms of security and protection."

The Dingo is an armoured utility vehicle designed for crew protection against heavy anti-tank mines, small-arms fire and RPGs. By contrast, even up-armoured HMMWVs are vulnerable to RPGs and mines. So far, the Dingo has been ordered by Austria, Belgium and Germany. Belgium ordered 220 of the vehicles in January with an option for 132 more.

Another potential KMW export to the US is the Mungo armoured utility vehicle, that can carry up to 10 soldiers. At 5.3 tonnes, it can be transported in a CH-53 heavylift helicopter. At the end of February, the US Marine Corps ordered two of the vehicles for comparative testing. The US has a requirement for several hundred vehicles that match the Mungo's specifications, says Müller.

KMW is also looking to fill the US requirement for mobile artillery. The company, in conjunction with Rheinmetall, builds the PzH 2000 155 mm self-propelled howitzer, which has won many international competitions. At more than 50 tonnes, this vehicle is too heavy to be transported easily, says Müller.

However, the company has formulated a solution to this problem. Much of the weight of the PzH 2000 is in the armoured protection of the five- to six-man crew. To solve this, KMW has taken the chassis of a Multiple Artillery Rocket System (MARS), the German version of the US Multiple Launch Rocket System and put a fully automatic artillery gun module, using the same Rheinmetall 155 mm artillery tube as the PzH 2000, on the back of the vehicle. This reduces the crew to two, who can stay in the armoured cab of the MARS vehicle, and reduces the weight to slightly more than 27 tonnes while retaining the same capability as the PzH 2000.

The system was successfully tested in 2004. There were some questions concerning whether the MARS chassis would be able to take the shock that the gun module produces, but KMW found that the chassis could absorb the recoil.

Germany's land forces companies have long been considered among the world's best. However, Hampson points out that Germany's land forces companies are somewhat lagging



Along with the Dingo, the **Mungo armoured utility vehicle** is a potential KMW export to the US

KMW: 0560844

True multi missile guidance

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The Thales AAW suite recently debuted in the world's first live firings with Interrupted Continuous Wave Illumination (ICWI) class missiles; ESSM and SM2 block III. The tests, conducted by the Royal Netherlands Navy and the German Navy, beyond doubt represent the live verification of this unique guidance technique, which enables control of multiple missiles in the air simultaneously.

BRIEFING

behind in the move toward lighter, modular vehicles embodied in the UK's Future Rapid Effects System's family of armoured vehicles programme and the US Future Combat Systems (FCS) family of armoured vehicles programme.

Müller disagrees with Hampson, saying that Germany's land forces companies are rapidly moving into the light armoured market. However, the enthusiasm in moving towards lighter, more easily deployed vehicles, is toning down somewhat in response to military operations in Iraq. He notes that Iraq has validated the old maxim that it is impossible to win a war with air power alone.

Indeed, experience in Iraq has shown that while massive tank battles may be a thing of the past, the tank still has a place in modern warfare, especially in urban combat.

Hampson, meanwhile, says that few countries have the money to buy German heavy armour technology and that even fewer are interested. Unless Iraq causes a turnaround in interest for heavy armour, the market is likely to continue to decline.

Production of the Leopard 2 tank and PzH 2000 system has been completed with production continuing for export.

The two largest current German Army armoured vehicle programmes are the Puma infantry combat vehicle (ICV) and the Boxer Multi-Role Armoured Vehicle (MRV), which are being developed by industrial consortiums.

Puma is being developed by PSM (Project System and Management) which is jointly owned by KMW and Rheinmetall. The German Army is expected to procure 410 Puma ICVs to replace the current Marder 1; prototype roll-out is planned for later this year.

Germany, the Netherlands and the UK originally developed the Boxer, but the latter pulled out, and at present, Germany and the Netherlands are continuing with the programme in the short term at least. Germany has taken delivery of 147 Dingo 1s and ordered 52 Dingo 2 production vehicles, the first of which have been delivered.

Lessons learned

While not all countries have supported US operations in Iraq, militaries have been closely watching and drawing lessons. One of the chief lessons is that armoured vehicles are crucial to success – something that KMW and Rheinmetall all plan to take advantage of.

In addition, Müller says that KMW is looking to develop a Leopard Peace Support Operations (PSO) tank. The impetus for this is the fact that the standard tank is designed to fight other tanks on open ground and as such is not ideal for urban warfare.

Müller says that one problem with standard tank design is that they are heavily armoured on the front, moderately armoured on the sides and essentially unarmoured on the back. In urban warfare, tanks require all-over armour protection.

However, the solution is not steel because steel is too heavy, says Müller. The solution is a thin,

The **Dingo light armoured vehicle** has been ordered by Austria, Belgium and Germany

KMW: 0590545

light but effective armour that can protect against medium-calibre weapons and RPGs. "Armoured vehicles are not steel, they are technology," he says. "But people don't understand that because armour doesn't fly."

Müller says the Leopard PSO would also have a second gun that would be smaller than the main gun. The main gun on tanks is designed to destroy other tanks, typically at ranges between 1.5 km and 4 km. In urban warfare, such weapons are overkill, running the risk of killing innocents in buildings behind the target. US tanker crews reported during the 1990-91 Gulf War that the Rheinmetall 120 mm smoothbore gun on the Leopard 2, the same gun as used on the US M1A1/M1A2-series Abrams MBT, was so powerful that gunners would sometimes line up two tanks and destroy both of them with one round.

The walls of buildings made of concrete blocks are considerably easier to penetrate than a tank's hull. The solution for KMW is to have a second gun, probably in the 20 mm or 30 mm range, although a larger low-velocity gun may also be a possibility.

Moving into support

Germany, long lagging behind in outsourcing military functions to industry, is now beginning to make strides. The German government says it will replicate the savings that the UK has made by bringing in the private sector in an effort to do in five years what has taken the UK 10 years. Hampson says it now looks more like it will take closer

to 15 years to achieve the same savings.

In one area, Germany has leapt past the UK in support and maintenance. Germany is privatising the support of about 6,000 large vehicles, a definition that includes armoured vehicles and lorries, under an eight-year contract worth up to EUR1.77 billion to provide 70 per cent vehicle availability.

To accomplish this, a new company, *Heeresinstandsetzungslogistik* (HIL), has been founded that is 49 per cent government owned and 51 per cent owned by KMW, Rheinmetall DeTec's Landsysteme unit and Diehl Group's Industriewerke Saar business, each with 17 per cent.

The companies are able to save money on support and overhaul because the companies involved designed and produced the vehicles and weapon systems being supported. In essence, the contract pays the manufacturers to be the mechanics.

The German government is funding three overhaul sites, including the logistics chain, computer systems and the maintenance personnel, valued at a total of EUR3.4 billion for the HIL project.

David Mulholland is a JDW Special Correspondent. This Briefing was reported from Munich and Berlin

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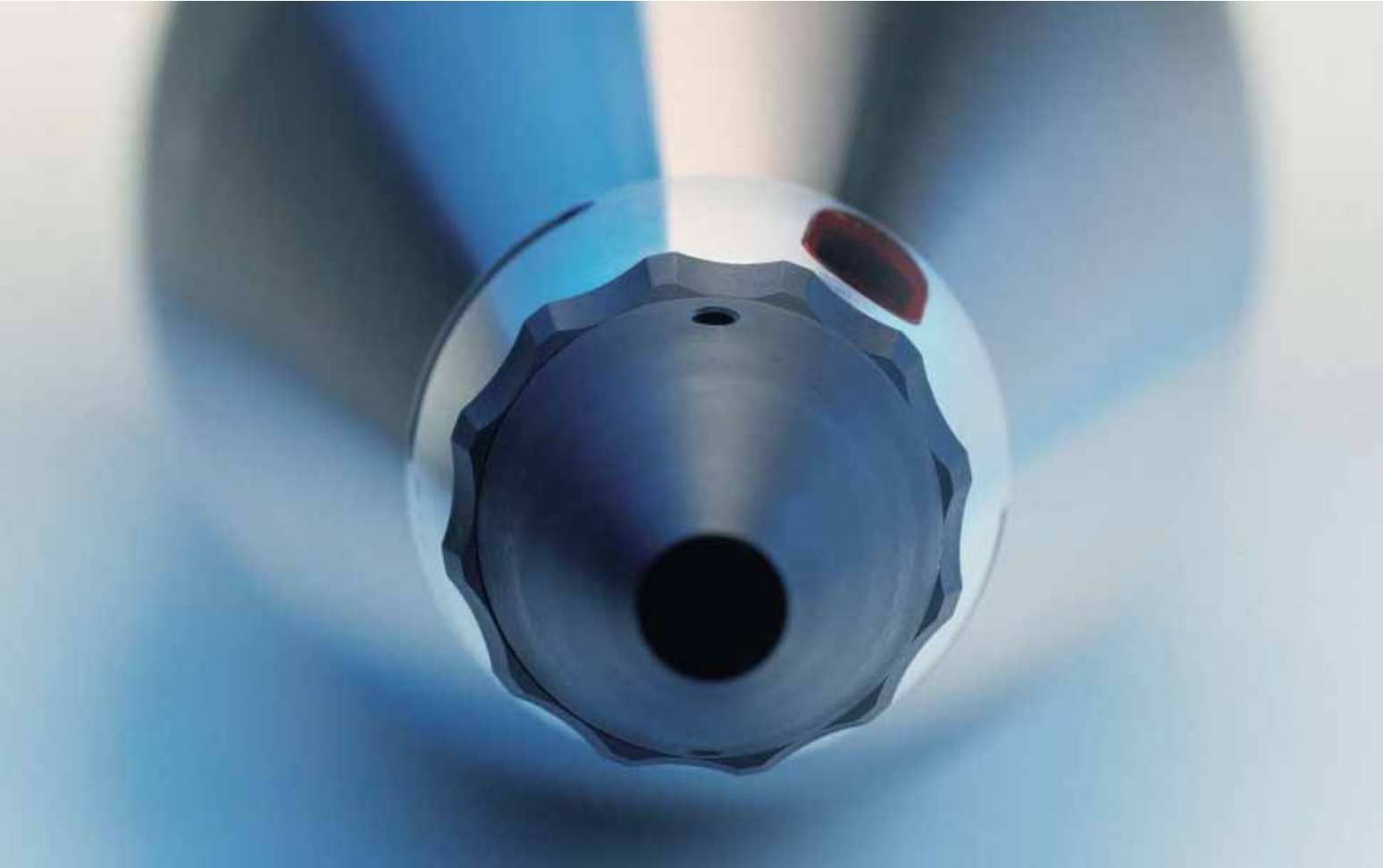
'Country Briefing: Germany – Future Force'
(JDW 18 August 2004)

Jane's Sentinel Security Assessments – Western Europe
<http://sentinel.janes.com>



KMW is planning to develop a peace support version of the **Leopard 2A6 main battle tank**

KMW: 0590811



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INFANTRY EQUIPMENT

US Army merges future warrior programmes

SCOTT GOURLEY *JDW Correspondent*
California

The US Army has merged two 'future warrior' initiatives – Land Warrior and the Future Force Warrior (FFW) Advanced Technology Demonstration (ATD) – following a Congressionally mandated review of the two parallel programmes. The results of the review were announced in February.

Previously, General Dynamics C4 Systems was the prime contractor for the army's Land Warrior programme, while General Dynamics Eagle Enterprise was responsible for the FFW ATD. Under the newly integrated programme architectures, General Dynamics C4 Systems will manage the merged efforts.

"The significance of the programme decision is that we can now

align Land Warrior and Future Force Warrior to merge into the spiral development and fielding plan for the Ground Soldier System," explained Susan Pasternack, strategy and business development manager for General Dynamics C4 Systems. "So what used to be Land Warrior 'Block 3' is now called 'Ground Soldier System', one of the four parts of the Family of Soldier Systems that Fort Benning has developed requirements for: Core Soldier, which is the basic equipment on the soldier; Ground; Mounted; and Air."

She continued: "With the success of Land Warrior demonstrations, that has become a practical baseline to look at FFW, prioritise some of those technologies and do some of the field testing of those prioritised technologies on a proven baseline,

which facilitates inserting that technology later."

Based on an initial application of Land Warrior hardware and software architecture, the process will allow testing of advanced displays, new power technologies, automated soldier fire control and unmanned aerial vehicle control.

Better planning

"There will be a much better planned procedure for implementing and pulling technologies from Future Force Warrior," she said. "So now the TRADOC [US Army Training and Doctrine Command] System Manager [TSM] - Soldier and the Soldier Battle Lab have looked at what they really want first and voice control is an example – they want hands free use of the sys-

tem. So those will be things that we will re-direct on Future Force Warrior, saying: 'Do these first'. Instead of them developing a bottoms-up system with some of those technologies, it's going to be based on what the user needs sooner."

Looking ahead six to seven years, Pasternack said: "[The warfighter] will have systems that have been developed, fielded and improved based on soldiers' inputs during that time, so rather than a science and technology effort that puts something out there for release, it will have been done progressively with soldier inputs."

The Joint Tactical Radio System (JTRS) Cluster 5 is one of the programmes likely to be prioritised for early fielding.

Pasternack noted that the first visible change resulting from the merger would probably occur in Fiscal Year 2008 when some of the FFW technologies might be pulled forward for early fielding.

Independent from the programme merger, the US Army made a decision in December 2004 to accelerate the fielding of some early Land Warrior equipment.

"It's going to a battalion [1st/25th Infantry Battalion] within a Stryker Brigade Combat Team," said Pasternack in late 2004. Deliveries started in December to equip a battalion. "That's a key word: we're 'equipping' and not 'fielding' about 500 systems that we're formally calling 'Side-by-Side-Plus'."

The Side-by-Side terminology comes from Fort Benning user investigations around the third quarter of 2004, which placed Land Warrior equipment next to current soldier hardware. The new 'Plus' terminology reflects the addition of new capabilities like on-vehicle battery charging.

"With those 500 systems we'll get more soldier experience; we'll get experience in a Stryker brigade; and they will be able to develop the tactics, techniques and procedures," Pasternack continued. "What they found at Fort Benning is that Land Warrior allows soldiers to do things that they weren't taught how to do. There are some pretty dramatic new capabilities and the TSM believes that this will change how they fight – both as a soldier and as a unit."

Heavier steel magazine trades on reliability

In an era when lighter is almost always better, US Army Special Operations Command (USASOC) is going against the trend, adopting a new Heckler & Koch steel magazine to replace lighter aluminium and polymer designs in many of its 5.56 mm M16-style weapons.

"We recently sold approximately 155,000 of these magazines to USASOC," explained Jim Schatz, manager of military programs at Heckler & Koch Defense. "This is going to be their standard magazine for their M4 carbine."

Originally called the SA80 magazine, Heckler & Koch first sold large numbers to the UK for the L85 (SA80) and L86 weapons. It is currently referred to as the HK high-reliability 30-round steel magazine.

"We've really found a good market for it in the US for a number of reasons," said Schatz. "One is because the army is around six million magazines behind schedule in the delivery of 30-round magazines. But most important is that these [steel] magazines, according to special operations forces' own statements and from our testing and user testing, will increase the feeding reliability of an M4 carbine by about 30 per cent."



The HK high-reliability 30-round steel magazine has been adopted by US Army Special Operations Command

Heckler & Koch; 0590884

Schatz credited the increased reliability to features like a smoother feeding follower with advanced spring material, all-steel construction, greater attention to production tolerances and an anti-friction surface finish.

"It's actually twice as heavy as an aluminium magazine," Schatz added. "But again, the users, as they state in their test reports, are more concerned that when they've got to do the shooting it's going to work."

The magazine is being fielded in two versions: a standard anti-friction model and a maritime/anti-corrosion model with stainless steel follower.

Scott Gourley *JDW Correspondent, California*

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'Future Warrior' (JDW 20 October 2004)

TLFeBOOK

Jordan takes delivery of new helmet

Initial delivery of a new composite ballistic helmet to equip the Jordanian Armed Forces (JAF) has been started by NP Aerospace Jordan (NPAJ) – a joint venture between NP Aerospace of the UK and Jordan's King Abdullah II Design and Development Bureau.

Designed by NP Aerospace to meet the environmental and weight versus protection ratio requirements of the JAF, the AC1200J-500 ballistic helmet range weighs between 1,100 and 1,300 g and performs to a level of "not less than NIJ Level IIIA and meets the requirements of EU Standard EN397 impact construction", NP Aerospace managing director Roger Medwell told *JDW*.

Medwell declined to disclose the exact value or capacity of the order, noting only that the contract "is to re-equip the entire JAF".

The current JAF strength stands at some 50,000 per-

sonnel. Deliveries to the JAF will run at about 2,500 helmets per month until completion of the order, Medwell said.

The JAF selected the helmet after comprehensive testing of various models from a number of countries based on UK Ministry of Defence standards. "The significance of this order is not just in its value. It is in the fact that the JAF has chosen this helmet after many months of evaluating many other helmets available on the market," said Nabil Issa, managing director of NPAJ.

Medwell said that the initial batch of AC1200Js will be manufactured at NP Aerospace's facility in Coventry, UK, after which the presses for the composite helmets will be transferred to the new NPAJ facility in Ad-Dulayl Industrial Park, Jordan.

The manufacturing facility in Jordan is managed and operated by Jordanian engineers and technicians trained



The new AC1200J-500 ballistic helmet for the Jordanian Armed Forces

P Felstead/Jane's;
0590889

and qualified at NP Aerospace in Coventry, UK.

Medwell said NPAJ is looking to mature the AC1200J for the wider Middle East market. However, he added, the potential exists for the NPAJ production line to expand to develop not only ballistic helmets but all composite requirements for the JAF.

Robin Hughes *JDW Middle East Editor, London*

Rapid mortar system mounted on wheeled vehicle

CHRISTOPHER F FOSS *JDW Land Forces*
Abu Dhabi

Singapore Technologies Kinetics has installed its 120 mm Super Rapid Advanced Mortar System (SRAMS) on the AM General High Mobility Multipurpose Wheeled Vehicle (HMMWV) 4x4 chassis to meet emerging markets in the Middle East.

The combination, which has already undergone a series of firing and mobility trials to prove it will work, was shown at the IDEX 2005 exhibition in the United Arab Emirates in February, during which it took part in a mobility demonstration.

SRAMS was originally integrated onto the rear of the company's Bronco All Terrain Tracked Carrier (ATTC), which has been in quantity production in a number of configurations for the Singapore Armed Forces (SAF) for several years. Development of this SRAMS version is almost complete, with over 500 rounds fired. Depending on the version, the Bronco ATTC has a maximum combat weight of 16 tonnes.

According to Singapore Tech-

nologies Kinetics, the blast over-pressure of the system has been reduced considerably. Previously, at standard charge 9, the system was within the noise limits set by MIL-STD-1474C; even the extended range (ER) projectile is well within the limits.

For the HMMWV application SRAMS is installed in the rear cargo area. A large hydraulically operated stabiliser blade is mounted under the rear, which is lowered to the ground by remote control before firing commences. When the stabiliser blade is deployed, the rear wheels of the HMMWV are raised clear of the ground so that the rear suspension is not over stressed.

A load assist device allows a maximum rate of fire of up to 18 rds/min (most 120 mm mortars of this type are loaded manually). Other advanced features integrated into the design include a special blast diffuser, breech valve mechanism and a unique bore cooling system that allows high-pressure air and water mist to be injected through a breech valve.



Singapore Technologies Kinetics 120 mm SRAMS installed on the rear of an AM General High Mobility Multipurpose Wheeled chassis with stabiliser retracted

Christopher F Foss; 0590857

The firing platform would carry about 12 rounds of 120 mm ammunition plus the crew, with another HMMWV carrying additional 120 mm ammunition.

The maximum range of SRAMS depends on the type of projectile and the charge combination. Firing a non-assisted projectile can achieve a maximum range of 9 km while an ER projectile can reach as far as 13 km.

The first example of the SRAMS/HMMWV is very much a test bed and it is envisaged that production systems would have a navigation and positioning system integrated into an automatic fire control system to facilitate autonomous firing. This would also increase the system's survivability against counter-battery fire as it would come to a halt, carry out its

fire mission and redeploy before it could be detected and neutralised by threat weapon systems.

Many countries in the Middle East use the AM General HMMWV for a wide range of roles and missions, especially for border patrol and with special forces.

The next application for the SRAMS will be on the Singapore Technologies Kinetics Spider (4x4) light strike vehicle.

Jane's For more, go online
www.janes.com

'Mortar system detailed as trials progress' (*JDW 12 May 2004*)

'AM General HMMWV series multipurpose wheeled vehicle' (*Jane's Military Vehicles and Logistics*)

'Mobile mortar systems – hard pounding for makers and military' (*Jane's International Defence Review March 2005*)

TLFeBOOK

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INTERVIEW

GISBERT (JAAP) DE HOOP SCHEFFER
NATO SECRETARY GENERAL

In his second year as NATO Secretary General, Gisbert (Jaap) de Hoop Scheffer's key goal is reflected in the title of his Annual Conference, 'Transforming NATO: a political and military challenge', which will be held in Brussels on 14 April.

"We have to proceed with military and political transformation," says De Hoop Scheffer. "Militarily transformation is of the utmost importance: increasing the efficiency, what we call the 'usability' of our forces, convincing nations that they should reform, that they should restructure, that they should move away from old-fashioned notions of territorial defence into making their forces much more usable, much more easily deployable.

"That means our European allies should really be spending more on defence. I must exclude some NATO nations because they are doing well, but most defence budgets are going down. This is not a good sign because restructuring defence costs money before it gives you profit.

"The next question is: 'How do we generate our forces?' Is our defence planning process up to standards? Not yet, is my answer. These are all elements of military transformation.

"Then you have the next leg, which is the political track: strengthening the political role of the organisation. NATO is the primary political forum for transatlantic relations and it should get more use in this role. The third leg is the partnerships. The strategic partnership with the EU is of the utmost importance. We must also come to a more structural relationship with the United Nations."

Regarding how NATO will interface with the nascent European Defence Agency (EDA), De Hoop Scheffer stresses the importance of Europe building its defence capability with greater cohesion.

"It doesn't make much sense that each European nation has its own procurement system, logistics and so on. In that respect, it's important and valuable that Europe is pooling its resources, pooling its procedures. That will lead to more efficiency and, in that respect, it's a positive thing. It's a plus for NATO if Europe takes a larger share of the burden where it concerns its defence. Of course, Europe will never be able to close the gap in defence spending between the United States and the European allies. Co-operation is key. Europe and the United States, and the EU and NATO, should work together on what they buy and how they buy it.

"The EDA should not develop into something anti-American – which, of course, it is not. Europe and the US, within the framework of NATO, should consult each other about these things.

"NATO is not directly part of the EDA; the NATO-EU Capabilities Group is where NATO and the EU share information on this issue. More in general, I'm in favour of having a very wide-ranging agenda of issues that



NATO and the EU discuss. I'm an Atlanticist, I have been an Atlanticist all my life, but I have a European vocation as well and I think it's in NATO interests – and US interests as a consequence – that Europe takes a larger share of the burden, that Europe has a more cohesive way of acting, but also that NATO has a much broader agenda with the EU. For example, the EU concept of the battlegroups is one which NATO and the EU should discuss because of the NATO Response Force (NRF). NATO and EU countries have only one single set of forces. We don't have different forces: one for the European Union and one for NATO. Co-ordination and discussion between NATO and the EU is essential."

Talking further on the relationship between the US and Europe, the Secretary General says: "It is my strong conviction that, with regard to the 'Transatlantic Relationship', you do not only discuss but you [act]. The state of the Transatlantic Relationship to a large extent is decided by what we at the Transatlantic Alliance, NATO, actively do. I'm talking about Afghanistan, I'm talking about the training mission in Iraq, I'm talking about our

presence in Kosovo, I'm talking about the naval operation in the Mediterranean. Doing things together at 26 [NATO nations] illustrates the true state of the transatlantic relationship. You can have long and fascinating debates about the state of the transatlantic relationship but, finally, what matters is what you *do*."

Beyond transformation, another key issue for the alliance is the role it plays in the post-9/11 'war against terror'.

"If you look at today's challenges, the fight against terrorism ranks together with the proliferation of weapons of mass destruction and rogue states, failed states, as among the key challenges we are all facing," says De Hoop Scheffer. "NATO is playing a role in different aspects in the fight against terrorism. Let me mention Operation 'Active Endeavour', let me mention the role NATO plays in Afghanistan, which is, of course, to prevent that country from being a black hole of terrorism again.

"At the Istanbul Summit, we agreed a number of many practical measures in the fight against terrorism, from protecting civil airliners from MANPADS [manportable surface-to-air missiles] to protecting helicopters or ports, eight practical measures in total.

"What is equally important is the political field: since we have to fight this fight together, I discuss anti-terrorism co-operation not only with NATO allies but also with NATO's partners, be they in Central Asia, the Caucasus, the Middle East, Northern Africa, the Mediterranean Dialogue, the Istanbul Co-operation Initiative (ICI). With Russia as well. All those contacts and discussions and plans focus to an extent on the fight against terrorism as well."

Adrienne Baughman JDW NATO/EU Affairs Correspondent, Brussels

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